Observations IN CLINICAL MEDICINE.

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AIX-LES-BAINS:

THE VALUE OF ITS COURSE IN RHEUMATOID ARTHRITIS, GOUT, RHEUMATISM, AND OTHER DISEASES.

HAVING for twenty or more years been in the habit of sending patients to Aix-les-Bains, at first few in number, but gradually increasing each year, till within the last twelve years the annual numbers have been very considerable, and having in the majority of instances been enabled to watch the effect of the Aix treatment upon these cases, I feel that I am not only justified, but that it is somewhat incumbent upon me to make known to the profession the results observed, and, as far as my experience enables me, to point out what cases are likely to be most benefited by undergoing the course at this much-frequented spa. Before doing so I shall say a few words with regard to Aix-les-Bains, pointing out a few of its chief features as far as they bear upon the curative powers of the locality, and also give a short account of its mineral waters and appliances, referring those of my readers who are much interested in the subject of the history, geology, botany, and other details concerning Aix to the many books published by the physicians practising in that place.

Aix-les-Bains is situated at the foot of the Alps, in a valley close to the Lake Bourget, surrounded by mountains, which cause its climate to be equable and mild—Italian, in fact, in character, but liable to become very hot at certain times of the year. The small town stands about 820 feet above the sea level, and 90 feet above the waters of the lake. Aix-les-Bains is in Savoy, about twenty minutes from Chambery, its capital; it is twelve hours from Paris and twenty from London by express trains; and, lastly, it is eight hours from Turin. The facilities for reaching Aix have been much increased the last few years, and I have known a patient leave London at 11 o'clock one morning and finish the first day's treatment at Aix by the same hour the next day. The knowledge of these facts can be utilised; for example, the equable and warm climate renders Aix a place suitable for patients suffering from diseases of the chest and throat, and also from many joint affections, and it is important that patients subjected in the treatment to a somewhat high temperature, and in which the skin is specially influenced, should not be exposed to the chilling influence of a cold air. Again, the fact that at certain times of the year the heat at Aix becomes very high renders it desirable that English patients, not usually fond of great heat, and who are not content to remain in-doors during the middle of the day, should select particular times for undergoing their course. From my own experience, I consider that the best times are from about the 10th of May to the 10th of June, or from the end of August to the end of September—that is, either an early or a late course. In different years there may always be a difference of a week or so. There are exceptions to be made to this rule; for some patients the temperature cannot be too high, and I quite believe that the treatment is promoted by as much heat as the patient can bear with comfort. The temperature of Aix in the middle of May is much like that of London in a warm July. The facilities for getting to Aix-les-Bains enable many patients to resort to the course who would otherwise be too weak and too crippled to bear a very fatiguing journey. Patients are naturally desirous of knowing about the length of time which is necessary to complete the course. Although this must differ in different cases, still from my experience I think we may regard twenty-four days of actual treatment as usually sufficient; circumstances occasionally occur rendering it advisable to discontinue the course for some days, which necessarily lengthens the time of stay. An important question next arises, Is it necessary after the course at Aix to go to a bracing air in some high locality? Doubtless, if convenient, a short residence in some such place is desirable; some of the heights near the Lake of Geneva are often selected; but I have known several instances which have taught me that care is necessary in the selection of these temporary residences, for early in the season the hotels are apt to be cold and damp, not having been inhabited for many months, and injury may thus be caused, undoing entirely the good effects of the Aix course. It is by no means necessary that patients should remain abroad; seaside in this country or the highlands of Scotland, if the season is proper, will effect all the bracing required.

There are two sources of mineral water from which Aix is supplied: the first called the Sulphur, the second the Alum Spring. The name of the latter is misleading, as the water is devoid of alum, and contains as much sulphur as that of the former. The supply of water from these springs is very large, almost a million gallons in the twenty-four hours. The temperature is about 115° F. It is fairly rich in dissolved sulphuretted hydrogen, but devoid of metallic sulphides. There is also a considerable amount of carbonic acid and nitrogen dissolved in the water. The solid contents are very small—less than one in two thousand,—and consist chiefly of sulphates and chlorides of sodium, calcium, and magnesium, together with traces of iodine, bromine, and lithium, with a small quantity of organic matter called barégine. The water from these two sources, together with fresh cold water, is used in the various baths, and some is made use of for drinking purposes.

The great feature in the treatment at Aix is the douche bath. The patient sits in the douche chair, the feet are kept warm, and jets of the hot sulphur water are applied to the whole body; this is accompanied with massage, and the men and women engaged in this process are perhaps the most experienced and skilful of any in Europe. The temperature, strength, and duration of the douche vary much in different cases. When the bath is finished, drying is rapidly performed, and the patient is wrapped in flannel and carried back to his bed in the hotel, where he remains for a time well covered with clothes, so as to keep up a full perspiration. Besides the douche, there are several other baths—the so-called "Berthollet," or steam-bath, and the local baths; also sprays and inhalations. Lastly, the large swimming-bath is often employed. Within a mile of Aix is the village of Marlioz, where there is a cold sulphur spring, alkaline in reaction and much stronger than the Aix waters; the temperature is about 60° F. At Marlioz there is a pump-room; also inhalation-rooms, in which the water is atomised; besides which there are baths and douches. The Marlioz waters are often used at Aix for internal exhibition; they are private property, whereas those at Aix belong to the State. Another water is very frequently administered internally at Aix—namely, Challes water, obtained from a village about twelve miles from Aix, which is beautifully situated, and has all the appliances of a watering-place. This water is one of the most powerful sulphur waters in Europe, containing a large amount of sulphuretted hydrogen, and also alkaline sulphides, besides very notable quantities of iodine and bromine; the natural water is of a low temperature, and it is largely exported to Aix and elsewhere.

I have already said that the soothing character of the climate and waters renders Aix a suitable place for the treatment of diseases of the respiratory organs, but I do not propose in this communication to speak further on the subject of these affections, but to dwell chiefly on the therapeutic value of the Aix course on patients suffering from different articular, muscular, skin, and some nerve diseases. In the first place, we will select three forms of disease—rheumatoid arthritis (rheumatic gout), gout, and true articular rheumatism, the last of which in its acute form is commonly called rheumatic fever. It is most essential that we should make a clear diagnosis of these three maladies, for although they may, in some of their stages, very closely resemble each other as far as external appearances are concerned, yet in reality, with the exception that all of them are articular diseases and often attack the same joints, they have nothing in common, and their treatment, both medicinal and dietetic, requires to be very different. The course at Aix, although often

useful in all three diseases, is notably far more valuable in one than in the other two. Under these circumstances I shall make no apology for devoting a short time to the endeavour to separate these diseases, which in practice are constantly mistaken for each other, an error of diagnosis frequently leading to much and often irreparable mischief. For this purpose it may be well to picture to ourselves three cases, one of each disease, and by a careful search into their histories and minute particulars, try to come to a correct estimate of the true character of each. The first case shall be a young woman or man, say, from twenty to thirty years old, having a distinct swelling of one foot and one ankle, and possibly of one knee also, with slight increase of temperature of these parts, but no very acute pain. There is little constitutional disturbance, but distinct debility, possibly more or less anæmia. The second case shall be a young man or possibly woman, of about the same age, with the same amount of joint affection—say, in one foot and ankle and one knee; no great pain, but some tenderness and increased warmth of the implicated parts. In this case also the constitutional disturbance may be slight—in fact, scarcely appreciable; and very little debility may be present. The third case shall be a young woman or man, exhibiting the same amount of articular affection, with the same joints implicated; the constitutional disturbance at the time very little, but usually more or less accompanying debility. How are we to diagnose correctly these three cases, which in external appearance resemble each other so closely? They may represent certain stages of diseases which are essentially different from each other in their pathology, and which in other stages could be more readily separated. Of the three cases above alluded to, the first is one of rheumatoid arthritis (rheumatic gout); the second, one of true gout; the third, one of genuine rheumatism. Let us now look more minutely into these cases.

CASE 1.—In the history of the first case we shall probably find that some severe depressing cause has been in operation before the development of the joint disease; the cause may have been either mental or physical; there may have been some well-marked heredity on one or both sides; the disease has probably come on very insidiously. In some cases, however, the invasion may be rapid; it is almost certain to have been progressive; the disease has travelled from joint to joint, but the invasion of a new joint is not accompanied with amelioration of those previously affected. If we inquire, it is not unlikely that we shall find that there is or has been some pain and stiffness of the back of the neck and jaw, not looked upon by the patient as connected with the other symptoms. There is more or less pitting of the swollen parts, but no evidence of cardiac or kidney disease arising in the course of the joint affection. As to the question of any connexion between alcohol and rheumatoid arthritis, I can positively say that it occurs not unfrequently in patients who have never in their lives taken alcohol, and I have seen some instances in which even the parents also had been complete abstainers. As to the nature of rheumatoid arthritis, I have given elsewhere my opinion to the effect that it results from a peculiar form of mal-nutrition of the different tissues of the joints, accompanied with defective power. There is no evidence to show that the symptoms depend upon the presence of any morbid principle in the system. Lastly there is much to show in its etiology and the distribution of the affected joints that it is intimately connected with the nervous system; two papers in the Medico-Chirurgical Transactions of last year go far to prove this. If in such a case as we have described the blood is examined, no uric acid is found; and if an opportunity occurs of observing the state of the joints, there are no urate deposits seen, which is invariably the case in true gout, but in place of such we find, from the first, evidence of ulceration of the cartilages, which goes on increasing till the whole of this structure is removed, and complete disorganisation of the joints ensues. Very many patients who have during the past few months exhibited little or no more than we have pictured in this our first case have within a year or so become hopelessly crippled and practically bedridden. I feel quite sure that in many such cases an erroneous treatment has much to answer for; errors in diet, errors in medicine, and errors in bath treatment have frequently united in bringing about this lamentable condition.

Aix-les-Bains treatment in Rheumatoid Arthritis.—It is in the treatment of cases belonging to this class of maladies that the course at Aix-les-Bains is peculiarly successful, not only in ameliorating at the time the condition of the patient, but in removing the tendency to the disease from the system. The effect of the Aix waters is by no means confined to the period of their administration, but the improvement often continues for several months; and now and then a patient, who may be disappointed at the termination of the course, after a short time has full reason to feel satisfied. I have seen numerous cases of rheumatoid arthritis most signally benefited by the treatment, and in many of these the disease seems to have been completely arrested, and no relapse has occurred after several years. To effect this amelioration in cases of rheumatoid arthritis several influences are at work: first, that of the hot sulphur mineral douche; secondly, the massage accompanying the douche; thirdly, the internal exhibition of the sulphur water, whether it be the Aix water or that from Marlioz or Challes. These, together with the climatic influence, produce an effect on the system which is most valuable. My own experience leads me to think the Aix course, if properly pursued, is not debilitating, or, if a feeling of relaxation is produced at first, it is by no means permanent. I have been frequently asked why Turkish baths should not prove equally as beneficial as the Aix treatment in cases of rheumatoid arthritis. My own experience enables me to say with confidence that, however useful they may be in other forms of articular disease, in this special affection their use is certainly not indicated, but strongly to be condemned, and I have seen in many cases much injury done by them; in one case—that of a young woman, to whom they were cruelly exhibited for thirteen weeks, and often twice in the day—hopeless crippling was induced, and almost every joint in the body became completely ankylosed, so that she could neither stand nor sit in a chair without being propped up with pillows. Patients and their friends are apt to be deceived by the fact that when taking the Turkish bath, and even for a short time afterwards, the pains are often relieved, but no permanent benefit is obtained; the subsequent mischief is in proportion to the debility induced. I do not wish for a moment to be supposed to consider the Aix course as a certain cure; there are many cases in which the nutrition of the body is so hopelessly undermined that no treatment has a chance of proving effectual, either in removing the symptoms or checking the progress of the disease; and, moreover, we must not trust to the mineral water alone, for I am confident that medicinal and dietetic treatment, continued over a lengthened time, is most essential. We must not lose sight of the fact that rheumatoid arthritis is essentially a slow but progressive disease, and a few weeks' treatment cannot be relied on to produce a permanent cure; of this, however, we may feel sure, that everything which causes debility tends to increase the rheumatoid arthritic condition, and that everything which improves the general state of health has at the same time a tendency to lessen the disease.

CASE 2.—We will now investigate our second case, that of the young man suffering from a slight attack of true gout. We shall find a history very different from that of the first case. There is a great probability that he will have inherited gout from his parents or grandparents, on one or other side, as he has been attacked with the disease so early in life; and there is an equal probability that he has indulged somewhat freely in those alcoholic fluids which cause gout. We shall also find that he has had several previous attacks, the first most likely confined to the ball of the great toe; that the disease is periodic, but not continuous, as in the case of rheumatoid arthritis; there need not have been any previous depressing causes in operation, but eczema, cramps, and dyspepsia may have preceded and accompanied the articular affection. In such cases we do not find cardiac affection as part of the disease, but in those of mature years valvular affection may be present as a result of the long-continued use, or rather abuse, of alcohol, and there is a great tendency to kidney disease. An examination of the blood in such a case reveals the presence of much uric acid, and evidence of the deposit of urate of soda is often seen on the helix of the ears and elsewhere; and if at any time an opportunity is afforded of an examination of the joints, streaks and patches of urate of soda are seen on the surface of the cartilages and ligaments.

Aix-les-Bains treatment in Gout.—When the disease is any way recent or acute, the Aix treatment should be avoided; for if the local inflammation were checked by the douches and massage it is sure to be developed in some other part; for there is always a morbid state of the blood

Numerous large subcutaneous Nodules, in a case of Arthritis &c.
(DR CHEADLE'S Lectures on the Rheumatic State.)

in gout, different from what exists in rheumatoid arthritis, and the morbid elements must be eliminated somehow or other. Hence mischief, rather than good, may ensue from the Aix treatment, which has no very great power of freeing the blood—at any rate, not in sthenic states of the system. The case is different in asthenic and chronic forms of gout; in these there is usually a defective power of the nervous system and a weakened state of the circulation. When there are passive or indolent swellings of previously inflamed parts; when there is much eczema; when there is a threatening of kidney disease in which a free action of the skin proves of much service; when massage is indicated—then in all such cases the value of the Aix course is great and undoubted, and it often lengthens considerably the interval between the attacks of gout.

CASE 3.—The examination of the third case will readily reveal the nature of the disease under which the patient is suffering. In all probability there have been one or more previous and acute attacks of long duration; that many joints have been implicated; and that in these attacks there has been much febrile disturbance and excessive perspiration. Not unlikely there has been pericarditis or endocarditis, which has left its marks. We shall also find that cold has been the immediate cause of the illnesses, favoured by a previously weakened condition of the body; that the disease has not been continuously progressive, but that there have been intervals of good health, if the heart has not been a cause of trouble. The blood in such a case exhibits no evidence of the presence of uric acid, perhaps it may be less alkaline than in health; and if an opportunity occurs of examining the joints, although we may find evidence remaining of more or less inflammatory action, there are no deposits on the cartilages or ligaments of urate of soda as in gout, and no evidence of ulceration of the cartilages as in rheumatoid arthritis. This third case is one of a subacute form of true rheumatism, which is so frequently met with in the intervals of the acute attacks of this disease.

Value of the Aix course in Articular Rheumatism.—No one would think of submitting a patient to the Aix treatment in articular rheumatism if there is any amount of febrile disturbance lingering about, or if any recent cardiac disease is present; and, as a rule, the joints after even an acute attack are not left in a very disabled condition. I once saw a comparatively young woman who had experienced twelve attacks of acute rheumatism; yet after recovery from the last attack she exhibited no very detectable articular changes, except a certain amount of relaxation of the joints. The Aix treatment therefore is not often required in such cases, but should any stiffness remain it would doubtless be of value. The question I am frequently asked is, whether after recovery from an acute attack a course at Aix would have any influence is preventing the return of the disease? I am not able to speak very confidently on this point from clinical experience, and one must see on reflection that the difficulty of arriving at a correct conclusion must be very great; still this much may be said, that the Aix course acts as a general alterative to the body at large, and certainly has a beneficial effect on the nervous system, improves the general health, and has therefore in all probability a protecting influence against recurrences. Some physicians have asserted that valvular affections of the heart are influenced beneficially by the treatment at Aix, and that valvular murmurs often disappear; this subject, however, requires more clinical study before it can be looked upon as established.

Muscular Rheumatism, Sciatica, and other Neuralgic Affections.—In chronic muscular stiffness there can be no doubt of the benefit frequently derived from the hot sulphur douche, and often from the massage; and the effect of these appliances is increased by the drinking of some sulphurous waters, in the same way as we have seen them benefited by the long-continued use of small doses of sulphur. Neuralgic affections, as of the sciatic nerve, and also of different branches of the brachial plexus of nerves, when they have become chronic, also receive much benefit from the Aix course.

Cutaneous Affections: Psoriasis, Eczema, &c.—The skin affections which I have for the most part seen treated at Aix have been those in connexion with rheumatoid arthritis and gout. I have usually seen psoriasis associated with rheumatoid arthritis, and eczema with true gout. In regard to the occurrence of psoriasis in rheumatoid arthritis, I am sure that the Aix treatment, in relieving the articular, usually ameliorates and often cures the skin affection. I cannot help quoting here a case illustrating this statement which came under my care some years ago. An elderly man, a high dignitary of the Church, had for many years suffered from psoriasis over much of the body, and on the back was a patch larger than any I had before seen, covering the whole surface of that region; he had more recently developed joint symptoms, evidently of rheumatoid arthritis. Although somewhat old for mineral water treatment, still he was suffering so much that I sent him to Aix, chiefly for the purpose of arresting the somewhat rapid increase of the articular disease. After about a month's treatment he had improved in general health, but had not made much progress as far as the skin was concerned; but during the next eight months after leaving Aix the skin disease rapidly improved, and the back became quite free, and, in fact, the amelioration effected both in joint and skin appeared quite marvellous. I have observed in numerous instances that the eczema occurring in gouty patients becomes much relieved by an Aix course, but in some few cases I have been disappointed.

As I have already exceeded the prescribed length of this communication, I must refrain from speaking more in detail of the different diseases which might be beneficially treated at Aix, and shall confine myself to a few final remarks as to my general opinion, after an extended clinical experience, of the value of the course at Aix-les-Bains.

1. Reviewing the results in the very numerous cases sent by me during the last twenty or more years, I am strongly of opinion that more benefit has been derived from the treatment at Aix than would have been received at any one other spa I am yet acquainted with.

2. That in many diseases of the stomach, liver, bladder, &c., the value of several other courses would often exceed that of Aix-les-Bains.

3. That in rheumatoid arthritis (the rheumatic gout of old writers) the value of the Aix-les-Bains course far exceeds, according to my experience, that of any other known spa.

4. That in many other articular affections, such as gout and rheumatism, the Aix course is very valuable, but not to the same extent as in true rheumatoid arthritis; and that an equal benefit may often be received from some other mineral water treatment.

Harveian Lectures

ON THE

VARIOUS MANIFESTATIONS OF THE RHEUMATIC STATE

AS EXEMPLIFIED IN

CHILDHOOD AND EARLY LIFE.

Delivered before the Harveian Society of London,

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LECTURE II.

The Anæmia of Rheumatism.—Tonsillitis, its relation to rheumatism. — Erythema exudativum. — Erythema nodosum.—Purpura rheumatica.—Chorea, its place in the rheumatic series. — Subcutaneous nodules, their character and structure.—Mode of evolution.—Rare in adult life.—Pathological and clinical significance.—Pleurisy.—Occurs in two distinct ways: (1) late, in relation to cardiac disease, as a result of mechanical congestion; and (2) as a primary manifestation of rheumatism.

Anæmia.—The effect of rheumatism in producing anæmia in adults is sufficiently well known, but in children this is still more remarkable; the extreme pallor and the hæmic murmurs are often most notable. Dr. Goodhart[1] thinks, further, that even children of rheumatic parentage are often

1 Diseases of Children, p. 515.

habitually anæmic. Others, again, have regarded anæmia as a predisposing cause of rheumatism. It may be that the inherited rheumatic taint gives the tendency to anæmia, and thus the rheumatism is the antecedent of the anæmia, not the anæmia of the rheumatism. Be this as it may, however, where the rheumatic state is actively developed, anæmia proceeds apace in children. The presence of the rheumatic poison appears to be inimical to the red corpuscles or their hæmatin; it either promotes their disintegration or interferes with their production. Trousseau[2] affirms that there is, perhaps, no acute disease which produces anæmia so rapidly as rheumatism; but this is not so. The rheumatic poison is not so rapidly destructive of red blood as that of diphtheria, which causes marked blanching in the course of a few days; but still its effect is decided and unmistakable. This influence of rheumatism in producing anæmia is greatly aggravated when it is accompanied by valvular disease of the heart and pericarditis. The deficient circulation through the lungs — the deficient oxygenation—may, in part, account for this; and it is accompanied, also, by progressive emaciation. Of this, however, I shall speak in the concluding lecture. I have now under my care a child with chorea and pericarditis. There is no arthritis, but the patient has had articular rheumatism before. The anæmia is extreme; the pallor that of a marked chlorosis.

Tonsillitis.—The claim of tonsillitis to be ranked as one of the rheumatic series is, I think, well established. Tonsillitis is a common disorder, and often arises independently, but it occurs so frequently in direct and immediate association with articular rheumatism, that some pathological connexion cannot be doubted. Trousseau[3] recognised a rheumatic sore throat, and showed how this was apt to alternate at one time with stiff neck and torticollis, at another with joint pain and lumbago. Attention was again drawn to the almost forgotten observation of Trousseau by Dr. Kingston Fowler[4] in 1880, who published an account of twenty cases of acute rheumatism ushered in by tonsillitis. The statistics of the Collective Investigation Committee[5] show that tonsillitis was associated with rheumatism in 158 cases out of 655, or 24·12 per cent., in addition to twenty cases of sore throat, the exact nature of which was not described. If these were added the proportion would be 24 per cent.[6] It is assumed, I think, generally, that tonsillitis always precedes the articular affection, and usually comes immediately before it—ushers it in, as the phrase goes; and this is no doubt the rule, but it is by no means invariable. Tonsillitis may occur at any period of the rheumatic series, although most often it comes first—immediately preceding arthritis.[7] In all but three of the 158 cases just quoted the tonsillitis preceded the arthritis at various intervals; in two of the remaining three cases the tonsillitis accompanied the joint affection, and in the third followed it. In the fatal case of W. S——, shown in Series VIII., it came last of all. In the case of William K——, a boy of eight, recently under my care, it likewise occurred last of a series beginning with arthritis and endocarditis; four months later, chorea; at the close of the chorea, acute tonsillitis. My own boy, of whose case I have spoken as having exhibited almost all the phases of rheumatism except carditis, had tonsillitis during the period of arthritis, and constant, repeated, and severe attacks during the period of chorea, and for a considerable term after all other signs of rheumatism had ceased. Of four other children, not one has suffered from tonsillitis, although all have been brought up together under like conditions. Whether the tonsillitis set up by rheumatism presents any distinctive characters, I cannot say with certainty. Trousseau affirmed that it could be distinguished by its ephemeral character, lasting only from thirty to forty-eight hours, and he describes the rheumatic sore throat as something more than tonsillitis, involving the pharynx, soft palate, and uvula. In some cases which I have observed, the diffused character of the inflammatory redness and swelling was very marked; but I do not know that this is invariable; further observation is needed upon this point. It is probable that tonsillitis may occur as a solitary expression of the rheumatic state. In many cases it arises in rheumatic subjects quite apart from the articular manifestation. Of its concurrence with another rheumatic affection—viz., chorea—I have seen three examples quite recently, and in all these the chorea occurred in a child who had articular rheumatism at another epoch. But of its connexion with endocarditis or pericarditis apart from arthritis I have no certain knowledge.[8] Tonsillitis is set up by many other causes as well as by rheumatism. The decision whether a given case of tonsillitis not immediately associated with articular rheumatism is of rheumatic nature must be based upon a comprehensive survey of the patient's life-history and family predisposition, as well as of the accompanying symptoms. If it occurs in a child with a strong family history of acute rheumatism, or in one who has had articular affection, this is presumptive evidence in favour of the tonsillitis being rheumatic. Even if there has been no arthritis at any time, the concurrence of other members of the rheumatic series—such as subcutaneous nodules, chorea, endocarditis, pericarditis, or erythema—would afford evidence weighty in proportion to the particular phases developed, the completeness of the combination, and the extent of the series.

Erythema exudativum.—The connexion of erythema exudativum with the rheumatic state appears much more clearly in the case of children than of adults. With the latter it occurs occasionally; with children, according to my experience, it is common. The statistics of the Collective Investigation Committee give only thirty-two cases out of 655, or not quite 5 per cent.; but these contain very few children—only fifty-one under twelve. Dr. Barlow and Dr. Warner found that, of twenty-seven patients with rheumatic nodules, eight had erythema papulatum or marginatum, one urticaria, and one purpura—i.e., ten out of twenty-seven, and these in close association with the evolution of the nodules. It appears in various forms—erythema marginatum, erythema papulatum, erythema nodosum, and urticaria, the first-named being the most common. The erythema may occur at any point in the rheumatic series; but it is, usually at any rate, associated with the development of active rheumatic disturbance in some other form, and occurs chiefly in the marginate or urticarious form. It is not unfrequently associated with endocarditis and pericarditis in the more serious cases. In eight cases of extreme gravity which have come under my care within the last year, four of which were fatal from persistent recurrent pericarditis and endocarditis, it occurred in one-half—two of the fatal cases and two others. Dr. Barlow, in his excellent introduction to the discussion of rheumatism at the meeting of the British Medical Association at Liverpool in 1883, refers to a case under his observation in which erythema occurred as one of a group in the rheumatic series, associated with endocarditis, pleurisy, and pneumonia, but without arthritis; the arthritis had occurred years before. He mentions another case, also under his own observation, where erythema appeared as one of a group of rheumatic phenomena, which included nodules, chorea, and fatal pericarditis, but no arthritis; that had occurred in a previous explosion of rheumatic activity. Dr. Barlow also gives two other cases in which exudative erythema ushered in rheumatic seizures—including endocarditis and pericarditis, with arthritis following.

Erythema nodosum.—With regard to erythema nodosum, it would appear that, although it has, so to speak, an arthritis of its own, it is associated sometimes with true articular rheumatism. The eruption is attended in itself with pain of joints, and sometimes swelling, possibly from pressure. But it also arises in connexion with genuine acute articular rheumatism. Sir Thomas Watson observed it to occur both before and after this affection, and quotes Rayer as having seen it in the same connexion. I have just had under my care, in Great Ormond-street, a case which is interesting as illustrating the rheumatic connexion, the concurrence of endocarditis, and also the occurrence of

[2] Clin. Med., vol. iv., p. 454. [3] Ibid., vol. ii., p. 466.
[4] THE LANCET, Dec. 11th, 1880.
[5] Brit. Med. Jour.: Dr. Whipham's Report, Feb. 25th, 1888, p. 391.
[6] Dr. Fowler estimated it as occurring in 80 per cent. of cases.
[7] Dr. Archibald Garrod and Mr. Cooke, in a paper published in THE LANCET, July 21st, 1888, found the percentage of cases of tonsillitis with rheumatic family history exactly the same as the percentage of articular rheumatism with rheumatic history—viz., 35 per cent.

[8] I have not traced the connexion; but, curiously enough, as I was in the act of writing this portion of my lecture I was asked by Mr. Kiallmark to see in consultation with him a little boy of six suffering from relapsing tonsillitis, in whom he had discovered, to his dismay, a distinct apex murmur. The child had had previous attacks, and Mr. Kiallmark had judged them to be rheumatic. The boy has had no arthritis, and there is no distinct rheumatic family history. The tonsillitis rapidly got well under salicylate of soda, recurring three times when this medicine was omitted. The murmur is a soft one, audible over the tricuspid area, not at the apex. I am doubtful whether it is organic, but I shall be much interested to learn its future course.

this eruption at an early age. Walter G——, aged two years and eight months, was admitted on Oct. 1st last with well-marked erythema nodosum on both shins. There was no arthritis, or any history of its previous occurrence at any period, yet the child has a well-marked mitral regurgitant murmur, undoubtedly organic. The father had had "rheumatism," and the father's sister rheumatic fever twice. The tendency of erythema nodosum to occur especially in young girls—who are also most liable to rheumatic arthritis, to endocarditis, and to chorea—is in agreement with the view of its rheumatic nature; yet exudative erythema, although often rheumatic, is, like arthritis and tonsillitis, set up by other causes than rheumatism. The facts that erythema occurs in cholera and in septicæmia as the result of poisoning by certain drugs, and the urticarious form by food poisoning, suggest a similar influence of the rheumatic poison, and we should look at the appearance of erythema in any given case as probably indicative of the existence of some irritant matter which is in circulation acting either directly or by reflection upon the skin. Such irritant may be the rheumatic virus; whether it is so or not must be determined by careful examination of the evidence afforded by the presence or absence of other members of the rheumatic series, or by their previous occurrence, together with the existence or otherwise of family predisposition.

Purpura rheumatica.—This appears especially in rheumatic subjects, and, like erythema nodosum, has a local quasi arthritis of its own; when it appears on the legs and ankles, the ankle-joints and feet are swollen, tender, and painful. But it arises also in the course of general acute articular rheumatism, as I have seen more than once; although usually, I think, it occurs independently. In one case, the patient whom I have mentioned before, a boy of eight (Series VII.) had had acute rheumatism severely twelve months before. The eruption appeared after standing about in the wet grass while very hot from playing cricket—a profuse crop of large purpuric spots on both legs, mostly about the ankles. There was much swelling of the ankle-joints, which were so tender that he could not bear to walk or move them; but no other joints were affected, and there were never any constitutional symptoms or the smallest rise of temperature, although it was taken frequently, from apprehension of a second attack of rheumatic fever. From these two circumstances—viz., that the ankles only were attacked, and that there was never any fever or general illness—I conclude the swelling was not directly rheumatic, but a local œdema, from purpuric extravasation or thrombosis of venules. Purpura rheumatica, then, while sometimes concurrent with active, acute, articular rheumatism, occurs also apart from it in rheumatic subjects, and is probably a minor expression of the rheumatic state, although far less common than exudative erythema.

Chorea.—This is one of the most interesting members of the rheumatic series. When associated with articular rheumatism it usually follows the arthritis; it is sometimes concurrent with it; and sometimes, again, as I have shown, and as M. Roger noted, it precedes the joint affection. Instances of this are shown in the clinical examples given in the preceding lecture. Chorea has furnished several curious pathological problems, which have given rise to frequent discussions and controversies, some of which continue to rage unsettled to this day. All are agreed, I think, that there is a certain connexion between chorea and rheumatism. As Dr. Barlow has well observed, there is no other general disease or fever of childhood with which chorea has any such association, with the single exception of scarlet fever, and that in far less degree; and scarlet fever, significantly enough, is the one fever especially associated with acute rheumatism. We never see a measles chorea, or a whooping-cough chorea, or a mumps chorea. The only points in dispute, then, are the nature of such relation between chorea and rheumatism, and its closeness and constancy. Some hold with M. Roger that all chorea is rheumatic—that it owns no other source; others that the relation is comparatively slight and rare. Statistics have been supplied on each side, some supporting one view, some another, varying perhaps in degree according to the unconscious bias of the compiler. Let me state clearly my own position on this question. I do not think the evidence warrants the assumption that chorea is invariably of rheumatic origin. I must say of chorea, as of tonsillitis, erythema, endocarditis, pericarditis, and arthritis—in fact, of the whole of the rheumatic series except subcutaneous nodules,—that it is produced by other causes as well as rheumatism. But I am convinced that rheumatism is the most common and potent factor. Other factors, however, must be taken into account in forming any satisfactory explanation of the genesis of chorea. There is a physiological basis in that greater mobility of nervous system and motor readiness of expression so well described by Dr. Sturges, and in the more excitable temperament of quick intelligent children, and of girls as compared with boys. This all tells and plays a part in the development of chorea. Yet it is singular how small the association with other neuroses appears to be, at any rate as far as the individuals are concerned; for these are found, according to the Statistics of the Collective Investigation Committee[9], in 97 cases only out of 439, or a little more than 22 per cent., and these 97 include 79 cases of headache and migraine, so that if there is any pathological affinity it is with those special forms only. Taking the question of inheritance, there is what is termed a neurotic family history in no less than 46 per cent. At first sight this seems significant, but on examination the neurotic affections included are such a motley crew that their presence in the record does not carry much weight; for the list embraces paralysis, drunkenness, tubercular meningitis, diabetes, sunstroke, spinal injury, and sciatica. There is not, as might fairly have been expected, a large proportion of hysteria (7·5 per cent.). The only connexion which comes out with any significance is chorea itself (14 per cent.), and this probably represents a rheumatic as much as a neurotic relation. And while I am upon this subject, let me pause for a moment to explode a time-honoured fallacy in the etiology of chorea—that is, that it spreads by imitation. This was true of the dancing mania of the middle ages, which spread amongst enthusiasts by a sort of hysterical contagion. And children learn certain tricks of grimacing. But they never acquire true chorea by imitation any more than they acquire nodules, or paresis, or endocarditis by imitation. Dr. West,[10] indeed, speaks of it as occurring occasionally, and of the necessity arising for changing the position of patients, to prevent the involuntary mimicry by one child of the movements of another; in the Collective Investigation Report[11] two cases are recorded as mimetic, but no details are given. I have now been connected with the hospital in Great Ormond-street for some twenty years. Cases of chorea are extremely common there; in the girls' wards, especially, there are often five or six or more cases at a time. It is very rarely, indeed, that there are not some. They are placed indiscriminately with other children, and yet I have not seen a single instance of its spread by imitation. I believe the separation of children to prevent mimetic development of chorea is entirely unnecessary. The belief in its production in this way is a survival of some old tradition, or has arisen from mistaking a trick of grimacing for true chorea. The statement has got into text-books, and, like many other time-honoured fallacies, holds its ground there, simply because it is taken for granted without inquiry. In speaking of grimacing, I may here also allude, in passing, to the minor chorea, which consists in mere winking of the eye and twitching of the lips or nose, without jactitation of the limbs. This is, I believe, usually a local chorea, connected with the eruption of the second teeth, and especially of the eye-teeth, and not, I think, essentially connected with rheumatism.

Now taking true chorea, there is, I think, even in the rheumatic cases, often something more than the constitutional basis of mobility of the nervous system, influenced and played upon by the rheumatic poison. There is frequently another factor—nervous shock. Sometimes the rheumatic invasion seems to be the direct exciting cause, as well as the predisposing influence; when, for instance, as often happens, chorea immediately follows or is concurrent with articular rheumatism, and endocarditis or pericarditis. But shock or mental excitement is frequently found as the immediate exciting cause of the choreic disturbance in rheumatic subjects. Witness the case of J. T——, Series X., eminently rheumatic, yet having two attacks of chorea ascribed to fright long before the first arthritis; and this shock or excitement is a common exciting cause enough in rheumatic cases. A remarkable instance of the effect of mental excitement came under my observation a year or two ago in a case of rheumatic chorea. A little girl of eight years old

[9] Coll. Invest. Records, vol. iii., p. 54.
[10] Page 236, seventh edition.
[11] Vol. iii., p. 48.

had acute rheumatism, with endocarditis and pericarditis, and followed immediately by severe chorea. The chorea got absolutely well in the course of a few weeks, and the child was brought up to London for change. She was taken to the pantomime for the first time, and became wildly excited. The next morning I was sent for to see her; chorea had returned so violently that she had to be held by her mother and nurse to keep her from falling from the bed. I have never seen more extreme jactitation. This happened instantly in a single night. And, again, a public schoolboy under my care for chorea following articular rheumatism, on his recovery returned to school and to work. His chorea did not return until he got into a quarrel and scuffle with another boy. The next day he was again choreic as before. I would insist on the fact that there is nothing antagonistic between the agency of nervous shock or excitement and rheumatism. They are concerned together as factors in many cases of chorea, as in the two examples just quoted. Yet fright chorea and rheumatic chorea are spoken of as if distinct. If fright is the immediate exciting cause in a given case, it is labelled "fright chorea," as distinguished from rheumatic chorea. Such distinction is fallacious and misleading, and has confused the etiology of chorea. The rheumatic state is the most common predisposing cause. Sometimes the choreic disturbance follows on this without obvious immediate exciting cause. Often a nervous shock stirs it suddenly into action; fright acts equally on rheumatic and non-rheumatic.

Turning now to the vexed question of the degree of closeness and constancy of the connexion between chorea and rheumatism, I would point out that the only evidence dealt with by most writers on the subject is the occurrence of acute articular rheumatism either preceding or accompanying the chorea. But there is a great deal of evidence in addition, some of it of quite recent development, which bears upon the question; this cannot be ignored; it must at least be taken into consideration and duly weighed in order to come to a correct judgment in the matter. Let me indicate some of these neglected data. In the first place, it appears from the Records of the Collective Investigation Committee, as previously stated, that between the ages of ten and fifteen, girls have a remarkable proclivity to acute articular rheumatism as compared with boys during the same period, which is that of the maximum incidence of chorea. This corresponds with a similar greater proclivity during that same period of girls as compared with boys to organic heart disease associated with acute rheumatism, to organic heart disease associated with chorea, and to articular rheumatism associated with chorea. The special proclivity of girls to chorea is more protracted, extending throughout childhood and adolescence. This singular harmony of relative incidence of these affections upon the sexes is possibly capable of more than one interpretation, but it is *primâ facie* very suggestive of a close pathological connexion.[12]

Further, there is the evidence of arthritis occurring after the chorea. This is by far the least common sequence. The proportion is not large, yet, according to my observation, much more than indicated by the thirteen instances out of 655 cases of rheumatism furnished by the Collective Investigation Records. Of these, nine are under the age of nineteen; three, twenty-four; one, twenty-seven. The explanation lies probably partly in the fact that these cases comprise a singularly small proportion of children. A considerable number of children with rheumatic chorea must be carried off by heart disease before reaching maturity, and those who survive are forgetful of slight choreas which are usually classed as fidgetiness or nervousness.[13] Be this as it may, however, there are a certain number of cases of chorea connected with rheumatism usually excluded from the estimate.

Then, again, there is the evidence afforded by the association of chorea with other conditions which are themselves found in close relation to articular rheumatism—i.e., the other members of the rheumatic series. This evidence is of weight cumulative in proportion to the number and importance of the phases combined. Thus the occurrence of endocarditis or pericarditis in association with chorea would have a certain significance. When a case of endocarditis or pericarditis arises in connexion with chorea, even if there be no arthritis, since rheumatism is the chief cause of endocarditis and pericarditis on the one hand, and so closely associated with chorea, and especially rheumatic chorea, on the other, the concurrence of these—each *per se* allowed to be frequently rheumatic—affords a considerable presumption that they are together rheumatic. There is no other general morbid state so closely associated with chorea as rheumatism. There are only two diseases largely and closely associated with endocarditis—viz., chorea and rheumatism. Explanations, more or less plausible, have been suggested as to the cause of the endocarditis of chorea apart from rheumatism. But no dynamic theory will explain the *pericarditis* of chorea when it occurs without articular affection. The significance of this fact has, I think, been overlooked.

The association of erythema nodosum or tonsillitis with the endocarditis or pericarditis would greatly strengthen the presumption of the rheumatic nature of an accompanying chorea; while the presence of nodules, so absolutely associated with rheumatic activity, would be in itself, I think, conclusive. The recent recognition of the rheumatic relations of the exudative erythemata and nodules has, indeed, brought much new light, and the evidence which these affections afford has yet to be fully collected and appraised. The history of a strong family predisposition to rheumatism, again, would possess a certain value. Look at the case of W. S—— in Series VIII., and that of J. T—— in Series X. In both these, as I pointed out previously, the chorea occurred long before the joint affection; and there was nothing to identify it as rheumatic at the time it occurred except the accompanying endocarditis, and in the latter case the fact that the child's mother had had rheumatic fever; yet later came the fatal series of events stamping it as rheumatic—the endocarditis, pericarditis, nodules, and arthritis.

Two days ago I saw a boy of eight (Charles B——),[14] the child of well-to-do people, who had general chorea of moderate intensity. He had never had arthritis, he had no nodules, and there was no sign of cardiac affection. I learnt, however, from the boy's mother, a young woman, that she suffered frequently from painful swelling of the finger-joints; that her brother, a young man of thirty, suffered from valvular disease of the heart, on account of which he had been refused for life assurance; that her mother and two of her mother's sisters suffered from subacute rheumatism, and another of her mother's sisters had had rheumatic fever. No neurotic taint of any kind could be made out. Does not such a history afford at least a presumption that the chorea known to be so often rheumatic owed something to the rheumatic connexion in this instance? It is, moreover, to be noted that this history was only elicited by careful cross-examination. The answer to my first question as to whether there was rheumatism in the family was in the negative. Had I been content with it I should have failed to trace the rheumatic taint.

Another case (D. D——)[15] now under my care is more suggestive—a little girl of four, brought to me for slight general chorea. She had never had articular rheumatism. There were no nodules to be found, and the heart's sounds were normal. On inquiry I learnt that the mother's sister had had rheumatic fever and severe chorea; her mother had had rheumatic fever, and died of heart disease. Does not such a history raise a strong presumption of the rheumatic connexion in the child's chorea?

Again, I have this week received into the Children's Hospital a boy of five, with chorea and small nodules. He has no arthritis, apparently no fresh endocarditis. The pulse is quiet; the temperature normal. The only sign of rheumatic activity is the development of the nodules, and with it the chorea. Yet he had rheumatic arthritis more than ten months ago, and has a double mitral murmur.

Take, again, the case of H. C——, Series IV. He had chorea in 1875, accompanied no doubt by endocarditis, for he was admitted with advanced mitral disease in 1878. He had never had arthritis as far as was known. But his mother had had rheumatic fever and mitral disease. Is it

[12] Collating the cases given in the Collective Investigation Records, it appears (Tables of Cases, vol. iv.) that for this period of eleven to fifteen acute articular rheumatism is met with in girls as compared with boys as 47 to 25, or nearly 2 to 1; rheumatic heart disease in about the same proportion—viz., 28 to 16, or nearly 2 to 1. Chorea associated with antecedent or concurrent articular rheumatism occurs in girls as compared with boys in still higher proportion—viz., 116 to 52 (vol. 14, p. 47), or more than 3 to 1; organic heart disease in connexion with chorea (collated from cases in vol. iii.) also in greater proportion—viz. 43 to 13, or more than 3 to 1; chorea generally, 131 to 47, or not quite 3 to 1 (vol. iii., p. 47).

[13] That this is so I have many times had proof from private cases—children brought for nervousness and restlessness, who on examination turn out to have the jactitations of slight chorea. These cases do not come into hospital, and amongst the poor they probably never come under the observation of a doctor.

[14] Note-book XIII., p. 467.

[15] Note-book XIV., p. 7.

not probable, to say the least of it, that the endocarditis and chorea were both rheumatic, the arthritis possibly having occurred without being noticed, or being yet to follow (as we have seen it sometimes do) later in the series?

Evidence of this kind must be taken into account, although it is difficult to estimate it statistically. When all these considerations which I have pointed out have been allowed due weight, there remains still a certain proportion of cases in which no rheumatic connexion of any kind can be traced. The unsettled question is as to its measure and degree. Various estimates have been made. The value of such estimation is, to my mind, very doubtful. In most instances the data are very imperfect. We may, I think, for example, at once put aside as inadequate all statistics based—as nearly the whole of them are—solely upon antecedent attacks of well-marked articular rheumatism, since they take into account only one phase, in severe form, occurring previously or concurrent with the chorea. Such statistics are necessarily defective, because—1. They omit many slight cases of joint or tendon affection such as those of which I gave examples in the first lecture, conditions constantly unnoticed or forgotten, or, if observed, not regarded as rheumatic.[16] 2. They omit all cases in which the joint affection comes after the chorea. 3. They fail to take into account all the evidence afforded by the occurrence and concurrence of subcutaneous nodules, of endocarditis, of pericarditis, of erythema, and of tonsillitis; so that, unless well-marked articular rheumatism has likewise occurred before the chorea, these are classed as non-rheumatic. 4. They omit to take into account the evidence afforded by family predisposition. The latest important statistics, those of the Collective Investigation Committee, likewise necessarily under-estimate the rheumatic element, although in less degree. They do, indeed, take into account not only previous acute articular rheumatism, but also those cases in which it accompanied the chorea or followed it immediately. But by the very nature of the case, being a report on chorea at the time, they do not take into account cases where the joint affection occurs some time afterwards, and apart from the chorea. Many cases, again (slight joint affections, not being identified as rheumatic by the observers), are probably classed as "vague pains." Many, again, are no doubt altogether overlooked. Moreover, in these statistics, as in others, the significance of mitral disease, of erythema, of tonsillitis, and of nodules, alone or in combination, is not estimated or admitted into the rheumatic proof; and how little this most important and common piece of evidence, the evolution of nodules, is looked for and recognised, and how wanting these statistics must be in this respect, appears from the fact that, of 439 cases of chorea recorded, in only seven instances were nodules observed. Why, we have sometimes as many in the wards at Great Ormond-street at the same time! There are six at the present moment. The statistics of the Collective Investigation Committee, based upon this single rheumatic event of articular affection before, during, or immediately after the event, give a 32 percentage of chorea positively rheumatic. If to these be added the cases of vague pains the percentage is 46·2. The estimates of two of the most sagacious clinical observers of our time come near to this. Dr. Stephen Mackenzie found 44·76 per cent. almost certainly rheumatic, and, for reasons similar to those I have put forward, he regards this as representing very imperfectly the rheumatic connexion of chorea. Dr. Barlow finds in forty-four out of seventy-three, or 60 per cent., sufficient evidence of rheumatism, and points out that the existence of progressive heart disease and the imperfection of the record render it probable that many other cases should be included. In eighty-four cases minutely recorded and specially investigated by myself, I find satisfactory evidence of acute rheumatism in the patient or immediate relatives in sixty-two—i.e., in 75 per cent. Leaving out the family history, the estimate would coincide very closely with that of Dr. Barlow. It may, then, I think, be concluded that in the majority of cases at least chorea is a phase of rheumatism.

It is not my purpose to enter into the question of the minute morbid anatomy of chorea, or the exact mechanism by which the motor disturbance is effected—whether by embolism in the motor tract, or by thrombosis there, or the irritant effect of the rheumatic virus, or the mysterious influence of nervous shock. All these in the present state of precise pathological knowledge can only be matters of speculation. But I may point to the possibility of some proliferative change in the neuroglia akin to that of the fibrous tissues elsewhere as a point which needs examination.

Before leaving the subject of chorea, however, I should like to call attention to the relation of nervous excitability to rheumatism. The rheumatic children who develop chorea are intellectual, highly strung, excitable, and nervous, often emotional, just as other choreic children. The question arises, is the nervous instability due to the influence of the recent active rheumatic state induced by it? The extraordinary emotional attacks observed in some cases of rheumatic chorea (as in the examples of W. S——, Series VIII, and J. T——, Series X.) would favour this. Or is the nervous instability part of the original constitution of the child, and chorea produced when this is acted upon by a second factor—viz., rheumatism? Or do the two tendencies run together in the original diathesis?—the child with a tendency to rheumatism inheriting therewith a mobile nervous system, as suggested by Sir Dyce Duckworth.[17] I am inclined to think the latter: that nervous excitability goes with the rheumatic diathesis, and that it is stirred up to active eruption of motor disturbance in chorea by some direct exciting cause—fright, or acute rheumatism, or pregnancy. I have seen this excitable tendency in the single child of a family in many instances. The rheumatic child is the excitable, emotional child. The rheumatic tendency and the nervous excitability run together in the same inherited constitution or diathesis.

Subcutaneous Tendinous Nodules.—I now turn to the next phase or manifestation—viz., the evolution of subcutaneous nodules. The actual discovery of these nodules is no new thing. They were observed by Hillier, who gives an excellent account of a typical case in his book on the Diseases of Children published in 1868. The case was one of chorea with pyrexia and organic mitral murmur, but no articular rheumatism. Cases have since been reported by Meynet and others. I had long been familiar with them as occurring occasionally in the course of articular rheumatism; but the credit of pointing out their frequency and great importance as clinical signs in the various manifestations of rheumatism belongs to Dr. Barlow and Dr. Warner.[18] These fibrous nodules are common in children—much more rare in adults. I have seen only two cases in adults, scores in children. This is perhaps partly the reason why they have not been more frequently observed, for we take our ideas of rheumatism from the disease as seen in adults. A second reason why they are not observed is that they are not known or looked for; and a third reason why they often escape notice is their small size in many cases. They are sometimes to be felt rather than seen. In one case now under my observation, two of these growths, the size of a hempseed, on the tendons of the outer malleolus, only become visible when the skin is drawn tightly over them, although they can be detected readily enough by touch. In the 655 cases of articular rheumatism given in the Collective Investigation Records (vol. iv.), there are only thirty-six in which nodules are recorded. Of these only five are in children under sixteen; but then the returns embrace a very small proportion of children. The chorea returns[19] yield only twelve cases out of 439. Yet I have at the present moment five under my care in hospital, and there are two more under my colleagues; all these are, except one of articular rheumatism, cases of chorea. The nodules vary in size from that of a hempseed to that of an almond or larger; in extreme cases they may attain that of half a walnut, as in the case of W. S——, Series VIII., represented in the annexed coloured illustration, and also in that of J. T——, Series X., and some others. The nodules lie under the skin, and are connected with fascia or tendons—in relation with fibrous tissues. They are not

[16] It is significant, in relation to the genuine rheumatic character of these growing pains, that a family history of rheumatism is found in 49 per cent of all "vague pains," almost identical with the 52 per cent. in definite acute articular rheumatism, and more than double the percentage found in diseases of all kinds, as stated by Dr. Sturges and Dr. Archibald Garrod—viz., 20 per cent. (Collective Investigation Records, vol. iii., p. 48). The case of Kate B——, given in the first lecture, illustrates this point also. She was admitted for chorea. No history of articular rheumatism either in the patient or her family could be obtained, and the case was recorded as one of non-rheumatic chorea. Twelve days later she developed slight arthritis, lasting forty-eight hours. Three weeks later pericarditis appeared, the articular affection and chorea having entirely ceased

[17] Address to the Thames Valley Branch of the British Medical Association at Richmond (Brit. Med. Jour., Jan. 3rd, 1885).

[18] Trans. Int. Med. Cong., 1881, vol. iv.

[19] Coll. Invest. Records, vol. iii.

tender, except slightly in rare instances. There is no redness of the skin over them, except occasionally from friction or pressure. They are found most commonly upon the back of the elbow, over the malleoli, and at the margin of the patella. They are also found not unfrequently upon the head, especially along the superior curved line of the occiput, the temporal ridge, and now and again upon the extensor and flexor surfaces of the hands, on the extensors of the feet, the vertebral spines, the spine of the scapula, and the crista ilii. In extreme cases—such as that of W. S——, shown in the plate—nodules may be found in nearly all these positions. Once I have seen them the size of almonds studded over the flexor tendons on the palms of the hands, and once in great numbers over the tendinous structures of the intercostals, on the front and sides of the thorax. There may be only one of these nodules, but more usually three or four are to be found; sometimes the number is large, as many as thirty or forty. I have counted thirty-five at one time. Sometimes there is only a single crop; sometimes several crops appear in succession. These fibrous growths are developed to perceptible size in the course of a few days; I have, for example, been unable to find one anywhere at one hospital visit, and have discovered several at the next, three days later. The large nodules, however, take a considerable period to attain their full dimensions. Their duration varies from a few days to several months. The shortest time I have noted is fourteen days, but Dr. Barlow[20] observed one to come and disappear again in three days. Large nodules—such as those shown of W. S—— in the plate—had an existence of months. Dr. Barlow has recorded their persistence for five months. The evolution of the nodules in itself gives rise to no pain or fever. If this be present, it is due to concurrent arthritis, or cardiac inflammation, or pleurisy. For example, in the case of two children under my care, in whom nodules have developed in conjunction with chorea, the temperature has never been above normal. When the nodular growths are exposed by dissection, they appear as "oval semi-transparent fibrous bodies, like boiled sago grains."[21] Examined microscopically in thin section, they exhibit wavy bands of tissue, with caudate and spindle-shaped cells and abundant nuclear growth; and they are highly vascular. They consist, therefore, of nuclear growth in process of development into fibrous tissue in all stages of transformation. These appearances are shown in the section under the microscope, for which I am indebted to Mr. Priestley, the registrar to the Children's Hospital, and are represented in the drawings given in the next lecture. A subcutaneous nodule is a proliferation of fibrous tissue just such as that developed in the interstitial framework of the liver or in the nerve sheaths by undue stimulation of alcoholic or other irritation. As Dr. Dickinson has well said,[22] the tissues of a child, and especially the fibrous tissues, are more readily excited to sprout in this way than those of adults, as shown by the rapid growth of fibrous tissue in hypertrophic cirrhosis and interstitial nephritis in children; the quick hypertrophy of muscle in cardiac disease and the marvellous growth of sarcomatous tumours are analogous examples. On this point I shall have more to say in the next lecture, when I come to speak of endocarditis and pericarditis.

The connexion of these nodules with rheumatism is extremely close, and I believe absolute. As far as I can judge, they own no other origin or connexion. In all cases in which I have seen them there has been either rheumatic joint affection at the time or at some period of the child's history, or such a concurrence of rheumatic events, one or more—such as endocarditis, pericarditis, chorea, and erythema—that there could be no doubt as to the nature of the condition. In nineteen out of twenty-seven cases recorded by Dr. Barlow there was arthritis; in six more there was distinct joint pain, and other evidence of the rheumatic state. In nearly every case recorded by others the rheumatic connexion has been clearly traced. As evidence of rheumatism they are I think indisputable. But there is something more than this. Not only are these nodules connected with rheumatism, but they are specially connected with the graver forms of it; and they are signs, serious apparently in proportion to their size and number. Look at the case of W. S—— (Series VIII.) and that of J. T—— (Series X.). What a list of rheumatic events! In the first, repeated endocarditis, chorea, arthritis, and almost certainly pericarditis, accompanied the evolution of nodules. In the second, endocarditis, chorea, pleurisy, and pericarditis. Both cases ended fatally in spite of all treatment. Nothing availed to stop steadily progressive endocarditis and pericarditis. Salicylate of soda, salicin, free doses of alkalies and quinine, and mercurial inunction were equally futile. Of six cases of this kind, where the nodules were numerous and large, which came under my care at the Children's Hospital during the last year, four were fatal. In all cases but one there was chorea. In every one there was endocarditis. In three, and probably in four, there was pericarditis. In two there was pleurisy.

So far as my present experience goes, I regard the eruption of large nodules, such as are shown in the sketch, as almost equivalent to a sentence of death. They mean persistent cardiac disease, generally uncontrollable, and marching almost infallibly to a fatal ending. General experience agrees as to the grave significance of these fibrous growths, at first looked upon as unimportant curiosities. Seven years ago, Dr. Barlow and Dr. Warner[23] recognised their serious import. In every one of the twenty-seven cases observed by them there was organic heart disease; in eight there was pericarditis; in twelve there was progressive valvular disease; and eight were fatal in spite of all treatment. The forecast has proved correct. Dr. Money, who has since investigated the subject, found nodules in half the cases of rheumatism in which well-marked heart disease occurred, and my experience is quite in accord with these observations. The cases recorded by others appear to have been almost uniformly severe and frequently fatal. I could give examples of the association of these nodules with every other phase of the rheumatic series, as well as with endocarditis and pericarditis and chorea and pleurisy, already mentioned; and in all these cases the evidence they afford as to the rheumatic nature of the affection is of the highest value, and I believe decisive. But their greatest interest lies in the fact of their frequent association with endocarditis and pericarditis of the most deadly, although subacute, form, and in their connexion with chorea.

Pleurisy.—Pleurisy occurs in association with rheumatism in two distinct ways. It arises frequently towards the end of rheumatic heart disease—partly, perhaps, as a result of the mechanical congestion of the pleura caused by the valvular defect, or pericarditis, or by extension from the latter. Of this late pleurisy instances are common enough, as in the cases of Series II. and X. Of it I shall say nothing further, since it is probably due as much to cardiac as to primary rheumatic causes. But pleurisy likewise occurs in rheumatism as an initial phenomenon, coming immediately before, together with, or immediately after, arthritis, as a direct result of the rheumatic influence. It is likely enough that it occurs quite independently, apart from all other phases, yet still a rheumatic manifestation. Probably many of the simple pleurisies and pleuro-pneumonias we see and regard as idiopathic would be found on careful inquiry to be of rheumatic origin. This is a point which deserves further investigation. Cases such as the two following are, however, very suggestive. For the particulars of the first I am indebted to Dr. Lewis, of Hamilton-terrace, with whom I saw the case.

On Dec. 22nd, 1887, a boy of ten travelled up to town from the seaside in extremely bitter weather. On the 24th he complained of pain in the ear, and subsequently had purulent discharge from it. On the 25th he was sick twice. At this point Dr. Lewis saw the boy, and found him with a temperature of 104°, and sweating profusely. No physical signs of any kind could be detected. On the 26th the fever and sweating continued; the temperature was 104·2°. On examination of the chest, pleuritic friction was heard at one spot, and this had greatly extended next day. Three days later he complained of pain and stiffness in the wrists, knees, and ankles, which were discovered to be swollen and tender. Signs of pneumonia had also developed. Salicin was given freely, and in forty-eight hours the articular symptoms subsided. The next day the temperature came down rapidly, and there was considerable collapse, which passed off, and the boy got quickly well. The heart remained unaffected

The second case is that of a boy now under my care at St. Mary's.[24] He was admitted with signs of some con-

[20] Trans. Int. Med. Cong., 1881, vol. iv. [21] Ibid.
[22] Introductory Address at the Hospital for Sick Children (THE LANCET, Nov. 3rd, 1888).

[23] Trans. Int. Med. Cong., 1881, vol. iv.
[24] F. G. H., Albert ward, Dec. 1888.

solidation and pleuritic effusion on the left side, and cough. Three days later both wrists and knees became stiff, tender, and swollen; the temperature was 103°. Under salicin the arthritis quickly subsided, and the boy made a quick and rapid recovery.

It may be that in such cases the pleurisy is simply the direct result of chill, just as the articular rheumatism is the result of chill, both due to a common cause. Yet pleurisy comes sufficiently often later still in the course of acute articular rheumatism, when it can hardly be attributed to the initial chill, and when there is no serious cardiac charge to account for its origin in mechanical congestion, to render its immediate dependence upon the rheumatic virus highly probable.

CASE OF

CHRONIC NEURALGIA OF THE UPPER LIP.

BY JOHN MARSHALL, F.R.S., F.R.C.S.,

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THE following example of an intense and long-continued localised neuralgia of the upper lip presents some features of special interest. The patient, who is a member of our profession, has supplied me with a narrative of his case, to which I have added a commentary by myself, three illustrative woodcuts with descriptions, and some general conclusions.

Narrative by the Patient.

"In December, 1879, I had a fall on the face whilst skating, and broke off part of the inner border of the left front incisor tooth. This border had naturally overlapped nearly half of the right front incisor. The fracture left a sharp, oblique, prominent edge on the remainder of the tooth, which still overlapped the right incisor, so that the internal surface of the upper lip continued to play upon the prominent edge of the broken tooth. In a day or two the friction of the lip against this edge began to give me great uneasiness about the lip, which on examination I found to be very red along the spot which played upon the tooth. I thought little of this at the time, but the redness went on to inflammation and ulceration, which healed by my taking care and using my lip as little as possible for about a week. But the irritation recommenced almost directly when I began again to use the lip in the ordinary way. Knowing that the trouble was due to the irritation of the tooth, which I did not wish to be extracted, I endeavoured by a voluntary effort of the muscles of the upper lip to keep the latter raised off the tooth. This continued strain was very harassing, but I determinedly kept it up for a fortnight, hoping by this means to finally cure the irritation. But at the end of a fortnight, when the ulcer was healed, I found that the effort to keep the lip off the tooth, which was at first voluntary, now became entirely beyond my control, for the muscles of the lip, on the instant that the mucous membrane touched the tooth, fell into the acquired action, raising the lip and slightly dilating the nostril. But, worse than that, I was conscious that this condition continued whilst falling asleep, probably during sleep itself, which was now much disturbed. This state persisted for about three months—that is until March, 1880. The feeling of constraint and stiffness about the upper lip was very distressing, for although the ulceration had healed, the pain now assumed a different type, being deep-seated instead of superficial, and of a dull boring character.

"Up till now, thinking the trouble was due simply to the broken tooth, I had sought no advice; but as matters became no better I determined to seek for this, especially as I was now annoyed in addition by a continual desquamation of thick crusts of the epithelium covering the affected part of the lip. This desquamation always left a raw, moist surface, beneath which in turn other crusts formed, and so on. I therefore consulted a physician, who regarded the case as one of eczema of the lip, which would get well under treatment; but it got steadily worse. He then advised extraction of the tooth, to which I submitted; but the involuntary drawing up of the lip still continued, and the pain even increased. At this time (June, 1880) the pain always became worse at about four o'clock in the afternoon, and so quinine was prescribed, but without effect. I often took, in moments of desperation, twenty grains at once, which was followed by quinism, but not by relief. Further medical treatment also proved of no benefit, and this condition continued till October, 1881, when I became a student in London. At this time the pain seemed to be deeply seated in the substance of the lip, and in the soft tissues about the frænum. I always obtained relief by taking the lip tightly between my forefinger and thumb, and squeezing it as firmly as possible, at the same time applying the handle of a spoon, taken out of hot water, against the frænum and the soft parts in its neighbourhood. At other times I was somewhat relieved by forcibly pressing the soft parts near the frænum against the maxillary bone.

"When I commenced my work at a medical school the pain somewhat diminished, and the desquamation of the epithelium was not so abundant; but in March, 1882, both conditions recurred as bad as ever. It was then that, under highly competent surgical observation, a certain hardness of the frænum and the tissues behind it having been detected, these parts were divided *transversely* down to the bone. This operation gave little or no relief, and quinine was again prescribed, but without benefit. In July of the same year, as the case was obscure and nothing could be distinctly recognised as accounting for the pain, I was advised to wait and give up smoking. I gave up smoking altogether for eight months—i.e., till March, 1883; but I was still as bad as ever. It was then proposed to divide the frænum and the neighbouring tissues *vertically* down to the bone, so as to expose and examine the periosteum, which was done, but without affording me any relief.

"I now gave myself up to the use of opium by the mouth, and of morphia hypodermically, whenever the pain was very bad. I continued this practice for more than three years—i.e., till about July, 1886,—when I determined to bear the pain; for, being now qualified to practise, I found it impossible to attend to my work whilst under the effects of opium. Even since that time the pain has continued unrelieved, making life almost intolerable; and it has retained the same deep-seated boring character, sometimes better, sometimes worse, but every day present, and always aggravated in the afternoon and during several hours of the night. For a time the application of cocaine mitigated the pain, but this also soon lost its effect.

"In August, 1887, it was suggested to me that the persistent pain might be due to osteitis of the superior maxilla, and it was proposed to trephine that bone; but as I could not submit to this operation at the time, and as I also wished for a further consideration of the proposal, that operation was not performed.

"In November, 1888, I sought still further skilled advice, and it was at once discovered that my right antrum was dilated. It was accordingly suggested that this might be the cause of my pain; but as the bony wall of this right antrum had long since been absorbed, and as more than a year previously I had myself several times evacuated its contents without any relief from the pain, which, moreover, was not on the right side of the face, I did not share in the expectation that by curing the cyst of the antrum the pain would disappear. Nevertheless, the dilated right antrum was successfully treated; but the pain in the fore part of the lip never altered in the least.

"Having, soon afterwards, occasion to call on Professor Marshall concerning some private affairs, and having suffered most acutely during the interview, I asked him whether he would examine my mouth. Seeing my wretched condition, and being assured by me that I had abandoned all hope of ever being better, and that I therefore did not anticipate any further treatment, he consented. After hearing the history of the case, and asking if I ever felt the pain extend upwards into the nose, which I always had, but attached no significance to it, he examined further as to the exact course of the pain, and concluded that the neuralgic suffering depended on some long-continued irritation of the mucous membrane lining the left half of the prolabium, and that it affected certain terminal ramifications of the left nerve of the septum nasi. Having subsequently most minutely tested the seat and course of the pain by the use of the intermittent electric current, he suggested a preliminary division of the terminal branches of the left nerve of the septum; this I especially begged him to undertake. The operation was accordingly done under ether, and was followed by immediate and great relief. But as the pain did not entirely disappear, a patch of mucous membrane

corresponding with the site of the irritation first caused by the broken edge of the left median incisor tooth, together with some cicatricial tissue about the frænum, were removed under the local application of cocaine. The operation on the thickened frænum was first done, and gave no relief; but instantly after the removal of the diseased portion of the mucous membrane within the border of the left prolabium the pain entirely disappeared, and I became as free from pain as ever I was in my life."

Commentary.

The interest of this case, thus graphically narrated, consists in its severity, its duration, its obscurity, the simplicity of its final diagnosis, its anatomical and physiological bearings, its pathological significance, its prompt relief, and its apparently permanent cure.

It was easy to observe whilst the patient was speaking a certain jerking action about the mouth, which might have been attributed to a slight tendency to stammering, but which obviously implied pain or the dread of pain arising from the use of the upper lip. When the mouth was quiet, the only peculiarity observable was a slight drooping of the fore part of the moustache on the left side; but there was no noticeable difference as regards the thickness of the upper lip on the two sides. On everting and slightly stretching out the lip, there was evident, just within its free red border and near the middle line, a small, slightly roughened, but soft patch of the mucous membrane, surrounded by a narrow and dusky area of desquamation. This patch, which measured on the moderately stretched-out lip about half an inch from side to side and a quarter of an inch in the vertical direction, became nearly circular or even somewhat elongated vertically when the lip was allowed to fall into its ordinary position, and it then corresponded precisely with the now much contracted gap in the dental series and alveolar border of the upper jaw, resulting from the extraction of the broken left median incisor tooth. The frænum of the lip was much disfigured and indurated. On passing the finger-point, even lightly, over the small roughened patch above mentioned, the characteristic pain of which the patient complained was immediately produced, and this was increased in intensity by a ruder friction. Deeper pressure higher up on the inner surface of the lip to the left side of the frænum also elicited the pain, whilst a still harder pressure in a direction upwards towards the left nasal notch was followed by a similar result. No such pain, however, was caused by even rude pressure anywhere else on the left half of the upper lip, or anywhere on the right half, or on any part of the jaw or its alveolar border, or on the left cheek in the direction or in the neighbourhood of the left infra-orbital foramen, or anywhere else but in the limited situation above indicated.

A more exact trial of the effects of local pressure by means of the blunt end of a silver probe served to demonstrate with increased accuracy the limitation of the hypersensitive area and track, as this extended from the roughened patch on the lip upwards into the nose and on to the left side of the nasal septum. Now, bearing in mind that the central, gutter-like portion of the upper lip, or *prolabium*, is developed in connexion with the septum nasi (as is so plainly demonstrated in the deformity of double harelip), and reflecting that its nervous supply might at least, in part, and especially on its deeper aspect, be derived from terminal branches of the *nerves running down the septum*, I came to the conclusion that the intense neuralgic affection from which this patient had so long suffered implicated certain prolabial ramifications of the nerves upon the septum nasi. This conclusion received interesting confirmation from two facts next stated by the patient in reply to my questions—namely, first, that a sniff of cold air up the nose would bring on the pain; and, secondly, that, whilst he thoroughly enjoyed a pinch of snuff taken up the *right* nostril, a pinch drawn up the *left* nostril brought on instantly the characteristic agonising pain.

On the following day I further tested the sensitiveness of the parts affected by means of the intermittent electromagnetic current; and I found that even when the current was so weak as to cause only the slightest tingling on the surrounding skin and mucous membrane, it made the patient start violently when the small moist pole was applied to the roughened patch on the left half of the prolabium. The track of the pain was, by this sort of *neur-algoscope* or *algoscope*, also quite distinctly mapped upwards through the deep portion of the lip to within the left nostril and on to the septum nasi.

I thereupon advised that two things should be done—viz., first, that the terminal or prolabial branches on the left side of the septum should be divided transversely inside the nostril; and secondly, that, if that operation failed, the patch of diseased mucous membrane, with its entangled nerve ends, should be excised. The first proceeding, I explained, would be not only a remedial measure, but also a physiological experiment, as it would serve to test the accuracy of my conclusion as to the path of the nerve filaments implicated in the case, and as to the normal source of the nerve-supply to the inner or mucous surface of the prolabium; whilst the second step, more strictly surgical, could be adopted afterwards if necessary.

The patient, with a due scientific interest in his own case, consented, but he insisted on my undertaking these trifling operations. Accordingly, on the first occasion, the patient having been etherised, the left ala nasi was held aside, a finger was placed in the right nostril to support the septum, and then the mucous membrane and the subjacent tissues upon the left side of the septal cartilage were divided by a repeated use of the knife along a line extending from the floor of the nasal notch to the tip of the nose, care being taken to feel the cartilage throughout against the edge of the knife. All was accomplished within the nostril, which was then slightly filled with mercurialised wool. On recovery from the anæsthetic the pain was found to be markedly relieved; there was a slight loss of sensibility in the prolabium—that is, on its free margin and inner surface, but not so noticeably on the cutaneous aspect of the lip; lastly, the roughened mucous patch was benumbed, so that it could be touched without eliciting the old very severe suffering. The physiological result was so far satisfactory; but at the end of a further experience of about ten days, as there remained some local tenderness, and, though much modified, a residue of neuralgic trouble, I first cut out, under the local influence of cocaine, a triangular piece of the thickened and disfigured frænum, but without giving any relief. Finally, after a few minutes' interval, the lip being everted, an oval portion of the mucous membrane, including the diseased patch, was lifted up by a fine-toothed forceps, a proceeding which elicited some pain, and was then snipped off with sharp scissors. An instantaneous shock of the old sort of pain caused the patient to leap up from the operating chair; but almost instantly afterwards he exclaimed, "The pain is gone."

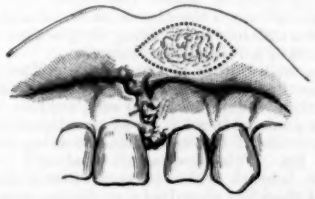
He reported to me, at the end of two months, in the following terms: "I have never even had the slightest return of pain since I saw you. I am perfectly well; all desquamation of the epithelium, which persisted for a little time after the operation, has long since entirely ceased. I have forgotten, and still forget sometimes, that I have a lip at all; and I have never been so happy in my life."

He still remains well.

Woodcuts with Descriptions.

Fig. 1 is a diagrammatic representation of the everted upper lip, showing the roughened patch on the prolabium, the disfigured frænum, and the contracted interval in the dental border left in the place of the extracted front incisor tooth. The dotted lines show the limits of the portion of mucous membrane removed by the scissors. I may here

FIG. 1.

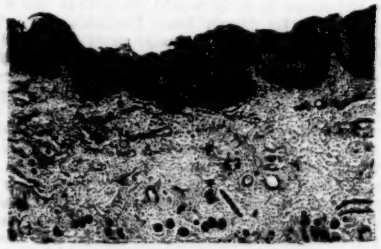


observe that the wound was just deep enough to expose without dividing the coronary artery of the lip, which was plainly seen, but did not bleed. When the lip retracted and the mouth became closed, the gap on the mucous aspect became vertical, and not parallel with the border of the lip; it was therefore closed by two transverse silk sutures,

and healed partly by direct union, but chiefly by granulation and cicatrisation, in about a fortnight.

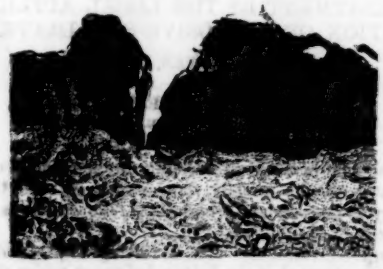
Figs. 2 and 3 are engraved after two micro-photographs taken by Mr. R. W. Boyce, from sections of an excised piece of the lip; prepared and mounted by him, with the permission of Professor Horsley, in the Pathological Laboratory

FIG. 2.



at University College. Fig. 2 shows a section through the healthy margin of the piece of mucous membrane removed by the operation. Fig. 3 is a representation of a section

FIG. 3.



through the roughened patch in the centre of this piece. Mr. Boyce has given me the following description of the parts concerned:—

"These micro-photographs were taken with the one-inch objective, without an eye-piece.

"The *epidermis* of the affected area is much thickened and very irregular, cracked and desquamating on the surface. The papillæ are smaller and fewer than in the surrounding healthy zone. The epithelial cells themselves under a high power appear to be slightly swollen, and they stain more deeply with osmic acid. As the nerve fibrils from and between the stunted papillæ break up and form a plexus between the individual epithelial cells, these increased, swollen, and more deeply stained cells may indicate or reflect some early morbid nerve change; or, on the other hand, these altered and super-abundant cells may have acted by merely mechanical pressure on the minute inter-epithelial nerve fibrils.

"The *subepithelial connective tissue* shows an appreciable increased condensation beneath the thickened plaque; but even uniformly over the whole portion of the tissue examined there are also slight signs of irritation, in that the number of small round cells is increased, especially in the vicinity of the papillæ.

"The *fine nerves* supplied to the mucous membrane are perhaps less numerous immediately beneath the diseased spot than elsewhere; but nowhere are there to be seen signs of neuritis or of actual degeneration. The papillæ are freely supplied with fine branches from the under-coursing nerves, but no special end-organs could be detected in them.

"Interesting are numerous minute sebaceous glands found in that portion of the tissue examined, which was nearest to the free border of the lip."

General Conditions.

In the first place, it may be asked, What was the *nature* of the local disease. Now, besides the well-marked although incomplete relief afforded by the division of the inferior branches of the nerves on the left side of the septum, it is obvious that the instantaneous and apparently persistent cure resulting from the excision of the diseased patch of mucous membrane, with of course the terminal nerve fibrils in it, points to the presence here not of a central but of a peripheral neuralgic affection. The absence in so prolonged a case of the evidences of local neuritis and of any later degenerative changes in the nerves ramifying in and beneath the mucous membrane proper confirms this view; although it must be confessed this was not my expectation, for I certainly had supposed, in explanation of the extraordinary sensitiveness of the part affected, that some enlargement of possibly existing end-organs or sensitive plaques, or some minute neuromatous condition, or some other well-marked evidences of nerve change might have been met with. The actual appearances are indicative merely of a *hyperplasia*, or a rapid continuous overgrowth of new epithelial cells, roundish, soft, and not readily disposed to become flattened out and hardened so as to be more or less protective, but each the carrier, in this immature stage, of its proper delicate and highly sensitive terminal nerve fibrilla or fibrillæ. This condition would seem rather to suggest a local disease more or less resembling a *soft corn*, and not a true warty growth; for the papillæ, far from being hypertrophied, were fewer, smaller, and shorter in the centre of the diseased patch than in the healthier parts around it—a condition due probably to the very superficial ulceration mentioned in the history of the case. The absence of enlarged papillæ, and of the smallest indication of the penetration of epithelial cells into the subjacent vascular tissue either in the form of processes or nests, even after a continuance of the irritation for so many years, completely negatives the supposition of the local affection being of an epitheliomatous character—an apprehension not unnaturally presenting itself to the sensitive professional imagination of the patient. It may in this respect be noted as important that the long-continued irritation of the mucous membrane had not, in this case at least, induced a malignant condition of the parts. The manifestation of a certain periodicity in the neuralgic attacks justified some apprehension as to the possible co-existence of local vascular disturbances, or some other morbid changes, giving rise to persistent functional disorder in Meckel's ganglion or in the Casserian ganglion, or in a still more central situation. But the periodicity in question might have been due solely to the local irritation dependent on the diurnal use or exercise of the lip. It is noteworthy that it was not relieved or cured by even large doses of quinine. Finally, the absolutely complete and persistent relief of the pain which has followed the removal of the local disease negatives the fear of the existence of any serious central mischief either in a ganglionic or in a sensitive nervous centre. There seems accordingly ground for the opinion that the patient, as he himself believes, is now permanently cured.

ON EHRLICH'S DIAGNOSTIC SIGN OF ENTERIC FEVER.

BY HOWARD TAYLOR, M.D. LOND., F.R.C.S.

THE following particulars of a very remarkable aid to the diagnosis of enteric fever can hardly fail to be of value to the profession; the more so, that many cases of this protean malady are extremely atypical, so as to be very difficult or even impossible of diagnosis; while obscure cases of other diseases are continually arising, which so closely resemble typhoid fever, that one cannot express any certain opinion as to their nature. By the aid of this additional sign one is able either to arrive at a more definite diagnosis, or else to exclude enterica, in not a few of such cases; when, but for this additional evidence, the nature of the patient's illness must have remained either altogether, or at least for some time, a matter of doubt.

The facts to which I wish to call attention are not new; the notice of the profession was drawn to them by their discoverer, Professor Ehrlich, several years ago. But they do not seem as yet to have met with the recognition which they deserve; and until Dr. Sansom had his attention drawn to the subject last autumn, during a tour in the States, they had escaped the notice, so far as I can discover, of English medical men.

In the year 1882, Dr. Ehrlich announced the fact that

the urine of patients suffering from typhoid fever gives a reaction—with one of the aniline derivatives—different from that of normal urine, and from the reaction of the urine of patients suffering from other diseases.

His test solutions are as follows: *A*, a saturated solution of sulphanilic acid in dilute (1 in 20) hydrochloric acid; *B*, a 5 per cent. solution of sodic nitrite in distilled water. (Both of these solutions must be fresh—especially the latter, which cannot be depended on for more than a week at the longest. When they are mixed, of course, a solution of sulphanilic acid containing free nitrous acid is produced, which is the actual test solution; but on account of the extreme instability of the latter the two solutions must be mixed fresh at each testing.) In using the test, about 25 parts of *A* are added to 1 of *B*. Mix with this an equal bulk of the urine to be examined, and render alkaline with strong ammonia.

On his return from America, Dr. Sansom asked me, as his house physician, to give the thing a trial. And although one naturally supposed that there could not be much value in a test which had been known so long and used so little, I applied it in a large number of cases, with the following results. With normal urine, the only change which ordinarily occurs is a mere deepening of its colour to a sherry or vinegar brown. In conditions of pyrexia other than typhoid fever the colour also deepens, but still remains merely brown, although usually it becomes of a darker tint than the average colour given by normal urines. But when the test is applied to the urine of a patient with enteric fever the colour rapidly turns red, the exact tint it acquires varying from the yellowish red of bichromate of potassium solution, though ruby red, to a rich port-wine colour. On shaking the test tube a froth is produced which has usually a delicate pink colour that is very characteristic.

Such is the reaction; now as to its limitations. In the first place, it is not *always* given until the latter part of the first week; but as the case frequently does not come under observation till then, this does not greatly limit its usefulness. And again, after the morning temperature has once reached normal during the intermittent stage (usually in the fourth week) it may—though it frequently does not—cease to be given. Still, so far as my experience has gone—and I have to acknowledge my indebtedness to our other house physicians for giving me the opportunity of examining a number of cases under their care—the reaction is present during the great part of the febrile period, *in every case*. It is this which constitutes the great value of the test.

If it had been found—as one could have wished—that typhoid fever was unique in this respect, the test would have been by far the most reliable sign we possess, as being the only invariable one. But unfortunately, *in exceptional cases*, the reaction is given in other diseases. Herein lies its weakness. However, while in most diseases it is a more or less rare exception, it seems, as I have said, to be an invariable (or almost invariable) rule in enterica. Occasionally, even in the urines of healthy subjects, a slightly reddish colour is developed; but this is *very* rare, and the redness is hardly ever well marked; indeed, I have never seen the deep rich crimson which is given in so many cases of enteric fever.

Apart from conditions of pyrexia, I have notes of several cases of Bright's disease, both acute and chronic, which gave this "typhoid reaction"; indeed, in albuminous urines, I have found it considerably more frequently than I should have expected from the average of my other cases. But, with this exception, it is extremely rarely given by the urines of patients whose temperatures are normal. Thus, out of a large number of cases of valvular disease of the heart it only occurred in one, in which hysteria was also well marked. In chorea, a slight reaction was given in one out of six cases. And in two cases of diabetes mellitus and one of diabetes insipidus, which I have repeatedly tested, the reaction has not been given on any occasion.

In febrile diseases it seems to be especially common in measles, and it has been given in one or two cases that I have tested. In acute general tuberculosis, which of all diseases perhaps most often simulates enterica, it has been absent in each of several cases that I have examined. In acute and advanced chronic phthisis I have obtained the reaction in a few of a good many cases I have tested; but in ordinary cases of this disease it has not been given. In the cases of lobar and of lobular pneumonia that I have examined, none of the urines have turned red; but I believe other observers have found the reaction in some cases of the former disease. In only two of a large number of cases of acute rheumatism has the reaction been present. In diphtheria it has not been given in the few cases I have had the opportunity of testing, but I understand that others have met with it. I regret that in other fevers my opportunities of observation have been too few to be worth recording.

From the above facts it would seem that the following conclusions can be drawn from Ehrlich's test. The absence of the reaction is practically proof positive that the case in question is not one of enterica (provided that the disease has lasted six days or more, and that the temperature has not yet fallen to normal). Its presence suggests—but does not prove—that the case is one of typhoid; the probability being greater, the deeper the tint produced. And as the other diseases in which it occurs least rarely are not those which most closely resemble typhoid fever, but the reverse, the significance of these exceptions is very greatly diminished. As far as I have ascertained, these statements correspond fairly closely with the experience of our other house physicians; but, as the use of the test has spread from the London to other hospitals, it would be interesting to know whether others have obtained the same results.

London Hospital, April 23rd, 1889.

CANCRUM ORIS, AND ITS SUCCESSFUL TREATMENT BY THE LOCAL APPLICATION OF CORROSIVE SUBLIMATE.

BY PETER YATES, M.D. EDIN.,
AND
E. C. KINGSFORD, M.R.C.S., L.R.C.P.,
HOUSE SURGEONS TO THE BOLTON INFIRMARY.

ON account of the great mortality in the reported cases of this fatal though happily rare disease, we feel that no apology is necessary in bringing the following cases before the notice of the profession.

CASE 1.—Edward H——, aged three years, was admitted to the female ward of the Bolton Infirmary under the care of Mr. Garstang on Feb. 18th, 1888. When eleven months old the child had measles, and has ever since suffered from right otorrhœa, which, however, is said not to have affected his general health. About three weeks before admission he developed whooping-cough, and during a paroxysm of coughing lost some blood from the right ear. Soon after this, severe inflammation set in about the lobule of the ear, and the parts quickly began to slough. Six days before admission he was seen in the surgery, when the sloughing parts presented a ragged and gangrenous appearance. Owing to the fact that he was suffering from whooping-cough he could not be admitted to the children's wards, and was treated as an out-patient, ten-minim doses of the perchloride of iron being given internally, and fuming nitric acid freely applied locally every morning. The fetor was somewhat reduced, but the sloughing process was still going on, and it was then deemed advisable to admit the child to the female ward. There was no syphilitic taint or any history of the administration of mercury.

On admission, there was a large sloughing sore on the posterior part of the right cheek, and in the vicinity of the ear, measuring from before backwards 2½ in. and 1½ in. from above downwards, the lower third of the external ear having entirely disappeared. The aural canal was visible as a small opening, down which a probe passed readily for about an inch, impinging on bare bone. The child was in a very low and weak condition, constantly moaning, without apparently sufficient energy to cry. Temperature 102°. A liberal diet of beef-tea, milk, and brandy was ordered; the perchloride of iron, in ten-minim doses, administered internally; and the sore, after the removal of the sloughs, freely swabbed with fuming nitric acid, and afterwards dressed with iodoform.

In spite of the treatment adopted, the sloughing process extended anteriorly, and on Feb. 22nd (four days after admission) the measurements were 3 in. by 2½ in., although the posterior part had commenced to take on a healthy action. On the 24th, the anterior edge of the slough was still extending, and on the 28th had reached to within half

an inch of the angle of the mouth. The right eye was closed owing to œdema, and a considerable portion of the lower maxilla was exposed devoid of its periosteum. The swabbing with nitric acid was now discontinued, and instead a strong solution of perchloride of mercury (1 in 500) used, and the parts dressed with lint soaked in a similar solution (1 in 1000). The next day a great improvement in the appearance of the wound was noticed, the surface being much cleaner and more healthy. By March 2nd, the bare portion of the lower maxilla was entirely covered by healthy granulations. The child was much brighter, and managed to chew some bread-and-butter, including the crust. The mercurial treatment was discontinued on March 8th, as the surface was then quite free from sloughs and any appearance of a gangrenous nature. Eventually the granulating surface slowly

FIG. 1.

healed, leaving a salivary fistula, which finally closed. Fig. 1 represents the condition of the boy before he left the hospital. He is now enjoying excellent health in America.

CASE 2.—James P——, aged five years, was admitted on June 18th, 1888, under the care of Mr. Garstang. The boy had enjoyed good health up to May 25th, when he developed headache, feverishness, screaming out at night, and slight delirium. This condition remained unchanged for about a week, when medical assistance was called in, and his symptoms were found to resemble those of meningitis. Bromide of potassium was ordered, and a blister applied to the nape of the neck. Under this treatment the symptoms gradually subsided, but later on he developed those of broncho-pneumonia. Three days before admission the mother noticed that the right cheek was swollen and painful, and on looking in the mouth saw a small black spot about the size of a split pea. This rapidly increased in size, invading the whole thickness of the cheek, and, breaking down, formed a large sloughing ulcer. There was no history of scarlet fever, measles, or of the administration of mercury.

On admission the child was restless, constantly crying out or moaning. There was then a large sloughing ulcer about the size of a half-crown, invading the whole thickness of the right cheek, including the angle of the mouth. The surrounding tissues were swollen, hard, and red, the breath being very fetid, and the child weak and emaciated. Temperature 100·4°.

The sloughs were immediately cut away, as far as possible, with scissors, and the surface freely swabbed with a 1 in 500 solution of perchloride of mercury, and afterwards dressed with lint kept constantly wet with a similar solution (1 in 1000). Beef-tea, milk, eggs, and brandy were ordered, and the parts again swabbed in the evening. The next day sloughing had extended very slightly, and a few more shreds were cut away, the parts being freely swabbed and dressed as before. This treatment was continued every twelve hours until June 25th, when the surfaces were perfectly clean and healthy, and the mercurial lotion was discontinued. From this date the boy made an uninterruptedly good recovery, and by July 5th the wound was soundly healed. So great had been the contraction in the process of healing that no plastic operation was necessary, the only deformity being a slight rounding off of the angle of the mouth. Between July 5th and 12th he gained 5 lb. in weight.

CASE 3.—Ethel C——, aged two years and a half, was admitted on Jan. 9th, 1889, under the care of Dr. Mallett. A month previously the child had contracted measles, the attack being followed by "bronchitis." Twelve days before admission the mother states that she noticed a swelling of the lower lip, and two days later a black patch situated midway between the chin and the lip. This extended daily, and the child rapidly became worse. There was no history of syphilis or the administration of mercurials.

On admission the child was quite apathetic, and did not appear to suffer any pain. Occupying the position and involving the whole thickness of the lower lip and chin was a large sloughing ulcer, its centre occupied by a

FIG. 2.

gangrenous mass measuring about an inch and a half by an inch. This was easily removed by forceps and scissors, and underneath the whole breadth of the lower maxilla was exposed, denuded of periosteum, to the extent of an inch on either side of the middle line. The edges of the ulcer were rugged and black, and the surrounding tissues brawny and red. Fetid saliva was constantly dribbling from the mouth, and the incisor and canine teeth of the lower jaw were quite loose, and almost ready to drop out. Temperature subnormal. Slight cough.

The treatment in this case was precisely similar to that adopted in the two former, with the exception that the swabbing was more frequent, and glycerine was added to the lotion for the purpose of increasing its tenacity.

Jan. 10th: There has been very little extension of the sloughing, the odour is less offensive and the child is still very apathetic.—11th: No further extension of the sloughing. Surfaces looking much healthier. The child slept well during the night, but is much more restless and cross this morning. Urine examined and found slightly alkaline, containing triple phosphates, urate of soda, but no albumen.—12th: No further extension of wound, and edges healing in places. Temperature subnormal. Dulness at both bases, with subcrepitant râles.—16th: Teeth in upper jaw loose. Wound a perfectly healthy granulating sore, healing at the edges and rapidly contracting. Perchloride discontinued and boracic lint dressing substituted. From this date the child's health rapidly improved, and on the 29th the blackened sequestrum, consisting of the outer table of the lower jaw, was removed; it measured 1½ in. in the long diameter and ¾ in. transversely. Underneath the sequestrum was healthy granulation tissue, with three of the permanent incisors just showing; these, rapidly becoming prominent, eventually dropped out. By Feb. 3rd the condition of the lungs was greatly improved, the dulness and râles having disappeared. The child was then setting up in bed playing with her toys, and the wound contracting. Fig. 2 represents the appearance of this patient four days after admission.

Remarks.—Although the percentage of deaths is not so appallingly high as formerly, the disease is still a very fatal one, as is pointed out by the various authorities on diseases of children. Goodhart states the death-rate at something over 75 per cent. Vogel records four deaths out of five cases; he also mentions that in one of these the disease originated in the deeper structures beneath the lobe of the ear, as it

probably did in the first case mentioned above. M. Taupin had the opportunity of seeing thirty-six cases, all of which proved fatal. M. Tourdes records 176 deaths in 239 cases. Dr. West, in his historical work on Diseases of Children, mentions seven cases that he had himself observed, only one of which recovered. Of fifty-eight cases recorded and unrecorded (not including the above three), that we have been able to collect, twelve recovered, giving a mortality of slightly over 79 per cent. Of those cases whose sex was noticed, thirty-six were females and twenty-one males, the percentage of females being sixty-three. In forty of these the age is stated at five and under, and between five and fifteen in the remainder, except one, whose age was twenty-six. The treatment adopted in the twelve cases of recovery was varied, one being treated with resorcin, one with an ethereal solution of iodoform, one with perchloride of mercury and nitric acid, one with acid nitrate of mercury, one with poultices, one by excision, cautery, nitric acid, iodoform, and the subcutaneous injections of carbolic acid, and the rest with escharotics, either alone or in conjunction with the actual cautery. In one case the treatment is not recorded.

The first case mentioned above was treated by the application of fuming nitric acid, without any marked result; and it was then decided to try the efficacy of the solution of perchloride of mercury, on the assumption that the disease was probably due to some micro-organism, and bearing in mind that Dr Sansom had described a micrococcus as found in the blood and secretions of one of his patients, and also that a case under the care of Mr. Davies-Colley had recovered after treatment with an ethereal solution of iodoform.

On examining some blood taken from the finger of Case 3 two days after admission with a Beck's one-twelfth oil immersion lens, we discovered many small bodies corresponding to those described by Dr. Sansom,[1] but did not notice any movement, save Brownian. Precisely similar bodies however, but in less numbers, were seen in a specimen of normal blood, these probably being the elementary particles of Zimmermann. That they were more numerous in the diseased than in the normal blood may have been due to its poverty, for it was found, on examining it with the hæmacytometer, to contain only 58 per cent. of its normal corpuscular constituents. The average of fourteen squares was taken, the highest number found in any one square being thirty-five, and the lowest twenty-five. The corpuscles themselves varied considerably in size, but the highly refractile crossed particles of Dr. Sansom were not seen. These observations correspond partly with those of Messrs. Heath and Victor Horsley.[2]

In the three cases we have reported, the effect of the application of the perchloride solution was certainly encouraging, for the rapidity with which the sloughing process was arrested and a healthy action set up was most noticeable. We do not, however, wish to claim for mercury any specific action in cases of this disease, but to point out that cancrum oris may be cured by its free and constant application, and probably by that of any powerful germicide. There is necessarily some danger in employing so potent a drug as corrosive sublimate, for, when applied freely to the buccal cavity, it must be absorbed to some considerable extent; and, indeed, it seems likely that it acts as much systemically as locally. Experience, doubtless, will point out some less harmful and equally efficacious remedy. The chief objection to the use of nitric acid and the actual cautery seems to be that they cannot be applied with sufficient thoroughness without destroying the tissues to a large extent, and greatly endangering, directly or indirectly, the life of the patient. That the three cases quoted, and others already reported, should have recovered under a local germicide treatment is of great interest, taken in conjunction with the researches of Mr. Lingard, who has described[3] a micro-organism he has discovered in connexion with this disease.

Bolton.

[1] Medico-Chirurg. Trans., 1878, vol. lxi.
[2] Med. Times and Gaz., vol. i. 1884, p. 601.
[3] THE LANCET, July 28th, 1888.

ST. JOHN AMBULANCE ASSOCIATION.—The quarterly meeting of the Invalid Transport Corps of the St. John Ambulance Association has just been held at St. John's Gate, Sir Edward Sieveking, M.D., LL.D., presiding. Mr. John Furley, director of the Order of St. John, reported that ninety-six removals had been effected during the quarter just terminated.

NOTE ON THE ANATOMY OF THE EPIGLOTTIS.[1]

BY MAYO COLLIER, M.S.LOND., F.R.C.S.ENG.,
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IN this short communication I propose to draw attention to some points in connexion with the relations and attachments of the epiglottis. Most of the text-books on anatomy describe the epiglottis as being attached to the tongue by three glosso-epiglottidean folds or ligaments. I have had frequent opportunities in the dissecting-room of the London Hospital of examining these parts, and on no occasion have I been able to verify the statements as found in the books. I now venture to supmit what I conceive to be a more correct account, and to illustrate my observations by several dissections of the parts under consideration [specimens shown]. It is to be borne in mind that the epiglottis is a well-defined piece of yellow elastic cartilage at the fore and upper part of the larynx, attached below to the angle of the thyroid cartilage, connected in front with the tongue and hyoid bone, but mostly free posteriorly. On looking at the epiglottis from behind, it is seen to be covered by a thin mucous membrane continued from the inner aspect of one ary-epiglottic fold to the other. Through the mucous membrane the well-defined and sharply cut edges of the epiglottis can be made out. In front there is no indication of the extent or lateral limits of the epiglottis. The epiglottis appears as one broad structure placed as a partition between the larynx and the tongue. On clearing the mucous membrane from the front of the epiglottis and root of the tongue a distinct fibro-elastic membrane is easily demonstrated. This membrane has attachments to the whole width of the hyoid bone from great cornu to great cornu; from this it extends upwards to the front of the epiglottis, attaching itself firmly to that structure. Laterally, its upper or free margin extends from the side of the epiglottis outwards, and, passing above and in front of the great cornu of the hyoid bone, spread out to line the fossa for the tonsil. I propose to name this structure the hyo-epiglottic membrane, and the fold passing outwards from the side of the epiglottis the amy-epiglottic fold, the latter being an abbreviation of the cumbersome term amygdalo-epiglottic fold. The central glosso-epiglottic ligament and the hyo-epiglottic ligament are usually described as two separate structures. It will be seen on closer investigation that there is one well-marked structure, triangular in shape, the base of which is free and covered by mucous membrane. The anterior border is attached to the tongue, and the posterior to the front of the epiglottis. This hyo-glosso-epiglottic ligament is an extremely well-marked structure, blending in front with the fibrous covering of the base of the tongue, and posteriorly being intimately associated with the epiglottis. I have never been able to make out a continuous elastic membrane as existing between the thyroid cartilage and the hyoid bone. I find a well-marked rounded ligament between the great cornu of the hyoid bone and the upper process of the thyroid cartilages as described by the books; also a central strong band running from the body of the hyoid bone to the pomum Adami about an inch in width. This central band shades off into loose cellular tissue under the thyro-hyoid muscle, containing a quantity of fat, and blends with, and is closely attached to, the stalk of the epiglottis. This central ligament is figured in Landois's Physiology, page 511; but I find no mention of it in the text-books. I would here point out that the thyro-hyoid muscle covers over a space more or less pyramidal, containing loose cellular tissue and fat. This space is bounded posteriorly by the ary-epiglottidean fold, anteriorly by the hyo-epiglottidean membrane, and internally by the curved edge of the epiglottis. The apex of the pyramid is at the side of the epiglottis.

Before ending these few remarks I would like to draw attention to the very superficial position of the laryngeal and lingual vessels and nerves. The superior laryngeal artery and nerve can be seen through the very thin mucous membrane covering the outer aspect of the ary-epiglottidean fold, whilst the lingual vessels and hypoglossal nerve are frequently only separated from the mucous membrane at the root of the tongue by a few scanty muscular fibres.

New Cavendish-street, W.

[1] Read before the Anatomical Society.

ACUTE TYMPANITES OCCURRING IN THE SIXTH MONTH OF PREGNANCY;

URGENT SYMPTOMS; PUNCTURE OF INTESTINES; RECOVERY.

BY CHARLES WICKS, L.R.C.P., L.R.C.S.

MRS. W——, aged twenty-six, came under observation on Feb. 20th, suffering from quinsy and rheumatism, During attendance on these complaints I learnt that the patient was six months pregnant. All went well, recovery being uninterrupted, until the evening of Feb. 26th, when I was hurriedly summoned to see her at once, and on arrival found the patient suffering from great distension of the abdomen due to tympanites, the cause of which I was unable to make out. The usual remedies were used, injections of assafœtida &c. having no effect. On my visit next morning I found the patient worse, and the symptoms very much exaggerated. She complained of great discomfort generally, although no actual pain. The breathing was very short and quick, and the pulse small, beating about 125 per minute; the temperature was 100°. Other remedies were then tried, and on the evening of the same day I was again sent for urgently. On arrival I found the patient cyanotic, the pulse 130, and labour commenced, evidently due to the irritation of the distended bowel on the uterus. Regarding the case as very critical, and seeing that all the remedies used had entirely failed to give any relief, I asked Professor Oliver to see her with me in consultation. Having talked the matter over with him, and, having enumerated the various methods that had been employed to give relief, we agreed that the only and best chance left for her was to puncture the abdomen, and thus relieve not only the general discomfort, but also probably stop the progress of labour. We accordingly punctured the abdomen in four places with a medium-sized trocar. This immediately relieved the patient, gas rushing freely from the instrument. In a few minutes she was able to express herself as feeling much better. Her breathing rapidly improved, cyanosis disappeared, and the pulse fell from 130 to 110. A dose of morphia was prescribed, and we left her feeling, as she said, very comfortable. On visiting her two hours later, I was pleased to find that the tympanitic distension had very greatly disappeared, but disappointed, on the other hand, that labour was progressing. The pulse was 105, and the temperature 100°. Labour was completed one hour and a half later, the patient having endured it well. One hour after confinement the pulse was 100, and the patient felt inclined to sleep, lying in the recumbent position without any inconvenience, a position hitherto unattainable. On my visit next morning I was pleased to find that the abdominal symptoms had entirely disappeared, and to learn that the patient had had a very comfortable night, had passed some flatus by the bowel, and felt wonderfully well, the pulse being 80 and the temperature normal. The following morning a violent attack of diarrhœa set in, which weakened her considerably; this, however, was soon controlled by a mixture of dilute sulphuric acid with opium. A few days afterwards I ordered a mixture containing belladonna and nux vomica; and after a period of nine days she was able to be out of bed, the pulse and temperature being normal and the bowels acting regularly.

Remarks by Professor OLIVER.—Had it not been for the timely interference by acupuncture in this case, one cannot but admit that it would soon have ended fatally. The extremely distended abdomen had so completely fixed the diaphragm as to make respiration difficult and the emptying of the heart all but an impossibility, and it was absolutely necessary, with labour in progress, that relief should be sudden; and effective acupuncture gave this.

Newcastle-on-Tyne.

DEATH FROM THE BITE OF A CAT.—A young woman named Elizabeth Jones died in Liverpool last week from hydrophobia, caused through a bite from a favourite cat, which about two months ago became ill and bit the deceased while she was tending it. The cat, it appears, had been taken over to Cavan, Ireland, some time previously, and was there bitten by a dog, although the dogs in the district were supposed to be under control on account of the prevalence of rabies.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

EVELINA HOSPITAL FOR CHILDREN.

ACUTE NECROSIS OF THE POSTERIOR ARCH OF THE ATLAS, WITH ABSCESS; ESCAPE OF CEREBRO-SPINAL FLUID; MENINGITIS AND SEPTICÆMIA; NECROPSY.

(Under the care of Mr. R. CLEMENT LUCAS.)

ACUTE NECROSIS of any of the vertebræ is of rare occurrence, and has seldom been met with in the cervical region of the spine; the following case is therefore of considerable importance, and is worthy of careful study. It is evident that the history of the case is very much that met with in a large majority of the children applying for relief in an out-patient department, suffering from acute glandular abscess from the irritation of the scalp due to pediculi capitis, and the local condition was a similar one, excepting that the abscess was in the middle line. In this instance such a source of irritation was present, and for a time was regarded as a sufficient cause for the condition, the pneumonia which developed accounting for the unusual amount of constitutional disturbance before the onset of the pyæmic state. On the appearance of the cerebro-spinal fluid four days after incision of the abscess, there could be no longer any doubt as to the extent of the disease or of the gravity of the prognosis. When similar acute disease has developed in other parts of the spine—in the lumbar region, for instance—marked dilatation of the superficial veins has been observed, and the abscess has attained considerable size before recognition. For the notes of the case we are indebted to Mr. G. Herbert Pennell, house-surgeon.

C. R——, aged seven, was admitted on Jan. 31st, 1889. The mother took him to the hospital on account of a painful swelling at the nape of the neck, and gave the following history. The boy had been ailing about a fortnight, complaining chiefly of headache, and four days before admission a swelling was noticed in the nape of the neck, which had grown very painful. The family history was unimportant, and beyond the illnesses of childhood the boy had up to the present time enjoyed good health.

On admission there was found at the junction of the scalp with the skin of the neck, directly in the median line behind, a fluctuating swelling of about the size of a walnut, around which the skin was brawny and inflamed. The hair was full of pediculi and nits, but there were no enlarged glands to be felt. The patient had a harassing cough, a flushed face, and a temperature of 103·5°. No marked physical signs were found in the lungs, and the urine was normal. The scalp was treated with Stavesacre ointment, and a linseed-meal poultice applied to the abscess on the nape of the neck. By the next morning (Feb. 1st) his temperature had fallen to 100·5°, and though it rose to 104° in the evening, it had fallen to 99° by the morning of Feb. 2nd. Meanwhile the poultices had much relieved the pain in the neck. The patient seemed fairly comfortable, was sitting up in bed, and taking food well.

Feb. 3rd.—Improvement maintained. The temperature has not exceeded 101°.

4th.—In the evening his temperature ran up to 104°, but his neck gave him less pain. On examining his chest signs of consolidation were found round the right base. An ice poultice was applied and a simple expectorant ordered.

5th.—Temperature normal in the morning, running up to 103° in the evening, but falling again to 100° on the 6th.

7th.—Abscess in the neck opened and about two ounces of apparently laudable pus evacuated. The ice poultice to his side was discontinued.

8th.—Wound dressed. Temperature normal in the forenoon, and only traces of the pulmonary consolidation found

remaining. In the evening, however, his temperature again rose to 103·5°.

9th.—Temperature again normal in the morning. The wound was dressed; found to be draining well and the discharges sweet. Still the temperature rose again as high as ever in the evening. His bowels are open, and nothing is found in the chest to account for this.

10th.—Condition still unsatisfactory. Temperature high, but no apparent cause in the condition of the wound or of the lungs. Complaining of pain over the right trochanter, where there is some swelling and very indistinct fluctuation. Also complaining much of headache. He was ordered a mixture of bromide of potassium and antipyrin, which shortly eased his headache, and a poultice was applied to the hip. His appetite is failing; abdomen somewhat sunken, but quite lax; bowels open.

11th.—An exploratory puncture was made over the trochanter, but no pus reached. Temperature still high. Pulse more rapid and feeble. On dressing his neck, the dressings were found to be saturated with a watery discharge, and a clear fluid was seen to issue from the end of the drainage tube in an intermittent flow, which was synchronous with the pulse. Some of this fluid was collected in a test tube, and, after allowing some flaky matter to settle, the clear supernatant portion was tested with nitric acid and argentic nitrate, giving respectively the reactions for albumen and chlorides. Towards the evening he vomited two or three times.

12th.—Temperature still irregular. Slept badly. Looks much worse, his eyes being sunken and his condition one of collapse. While his neck was being dressed he suddenly turned pale, had a slight tonic convulsion of trunk and limbs, followed by tremulous movements of lips and eyelids. Rapidly recovered consciousness. Dressings soaked with watery discharge. In the afternoon he was seen by Dr. Taylor, who happened to be in the ward, and found no signs of active pulmonary mischief, but gave it as his opinion that there was some meningitis. Temperature remains high. Complaining of no pain. No rigidity of limbs or retraction of head.

13th.—General condition worse, temperature remaining high. Frequently sick. Complaining of thirst. Diarrhœa. Dressings soaked as before. Drainage tube left out, the abscess cavity seeming to have contracted, and the external wound looking quite healthy. There is now undoubted fluctuation in the swelling over the trochanter. He was seen by Mr. Lucas in the afternoon, who diagnosed pyæmia.

14th.—Temperature remains high. Very weak. Somewhat delirious. Picking at bedclothes. Complaining for the first time for several days of pain in the neck and head. Lies coiled up, and resents disturbance. Sickness and diarrhœa continue. Extremities cold. The stimulants were slightly increased and quinine given in small doses frequently. In the afternoon some rigidity was noted in his right arm. He died in the evening.

Necropsy (made by Mr. BIDWELL).—On opening the abscess cavity, at its floor the posterior arch of the atlas was found quite white and bare, the two portions being separated by a vertical median fissure. Just above the centre of the arch of the atlas an opening (of about the size of a crow-quill) in the dura mater was visible. On getting out the spinal cord, the meninges were seen to be thickened and much injected. On laying open the dural sheath, a large quantity of turbid fluid escaped, and the cord was seen to be coated at places with flakes of lymph and the vessels of the pia mater congested. Over the right trochanter was a bursal abscess. On removing the brain, there was found well-marked basal meningitis; the choroid plexuses were covered with lymph; the ependyma was injected, and there was pus in the posterior cornua of the lateral ventricles. On opening the thorax, the left lung was found to be healthy, whereas the right was thickly coated with recent lymph. On section, the upper and lower tubes were found to be congested, but not pneumonic; the middle lobe grey and comparatively bloodless, but crepitant and able to float on water. In the upper and lower lobes were in all three abscesses, varying in size from that of a pea to that of a hazel-nut. There was also in the lower lobe a more solidified caseous mass of the size of a nut, and one of the bronchial glands was also cheesy. Heart: no petechiæ; contains some ante-mortem clot. Liver pale and hard. On the upper surface, under the peritoneum, are to be seen pale arborescent streaks. No petechiæ. Spleen appears normal. Kidneys pale; no obvious signs of inflammation; stellate veins injected.

ANCOATS HOSPITAL, MANCHESTER.

TWO CASES OF SPINA BIFIDA; INJECTION; REMARKS.

(Under the care of Mr. E. STANMORE BISHOP.)

LITTLE has been done to advance our knowledge of the treatment of spina bifida since the publication of the report of the Special Committee of the Clinical Society in 1885.[1] In this they reported in favour of the treatment by injection of iodo-glycerine solution, as recommended by Dr. Morton in 1877, and this method was adopted by Mr. Bishop in the two cases under his care. The number of cases treated by this injection published in the report is 71, with the following result: recovered 35, unrelieved 5, relieved 4, died 27. The deaths are placed as follows: meningitis 7, shock 5, marasmus 7, hydrocephalus 2, convulsions 2, diarrhœa 1, doubtful 3. It will thus be evident that the recognition of shock as a possible cause of death is of considerable importance; and it was doubtless to counteract the tendency to this that bromide of potassium was injected into the rectum in the case which recovered. The following are given as unfavourable circumstances in cases in which the operation may be undertaken: distinct evidence of the presence of the cord in the sac; a very thin membranous or ulcerated sac; previous rupture; occurrence of a distinct impulse between the tumour and the anterior fontanelle, or easy return of the contents of the tumour into the spinal canal; the performance of the injection in the case of very young children. The other methods of treatment investigated were: that by puncture or aspiration and subsequent pressure, 46, with 30 deaths; by ligature, 16, with 6 deaths; excision, 23, with 7 deaths; by injection of simple iodine solution, 26, with 5 deaths. Dr. Morton gave an even more favourable account of the value of the treatment recommended by him, from his knowledge of cases in which it had been employed.[2]

CASE 1.—James C——, fourteen days old. Is the first child. No history of deformity on either side. The confinement was quite natural, except that the liquor amnii was deficient, which the midwife described as being not more than an eggcupful. No unusual incident occurred during the pregnancy. The child when born (Oct. 21st, 1888) had talipes equino-varus of both feet: the right being drawn up to less than a right angle with the leg, and irreducible beyond 130° by manual force; the left was easily reducible. There was also a spinal tumour over the second to the fourth lumbar vertebra, covered for the first third with skin, which ended in a jagged outline upon the wall of the sac, and for the remaining two-thirds with a bluish membrane; the middle third of the tumour was ulcerated and discharging slightly. At birth the tumour was flaccid, sessile, and about the size of a walnut. There was a nævoid condition of the skin around the tumour and over the glabella.

When seen on Oct. 28th, 1888, the feet were found to be in a state of equino-varus, as described above. There was scarcely any movement, and apparently no sensation below the knee. The faradaic current applied to the external popliteal nerve produced no action of the peroneal muscles on the right side, but slight movement on the left. The spinal tumour was the size of a small orange, and distended. The ulceration of the median third was very marked, and there was considerable moisture oozing from it. By transmitted electric light no darker lines or shadows were to be seen. There was no dimple or retracted portion. Pressure upon the tumour produced no appreciable effect as to diminution in size, but the child cried. The cranial sutures were widely open, and the forehead overhung the face. Intra-cranial pressure was evident. There had been no convulsive movements. The child was suckled by its mother. To protect the tumour, especially its ulcerated portion, and to gain time, a dental wax cap was moulded to its surface, and retained by the usual binder. The ulcer itself was dressed with boracic ointment.

Nov. 4th.—The dental wax cap had become soft with the heat of the child's body, so a cast was taken in plaster, and a leaden cap moulded upon this was fitted accurately to the swelling. Ulceration less; nearly dry.

15th.—The child has worn the leaden cap ever since, the dressing of boracic ointment being changed from time to time. All ulceration has disappeared, but the tumour is

[1] Clin. Soc. Trans., vol. xviii.
[2] See also THE LANCET, vol. i. 1885, p. 1042.

fully distended. The bowels having been emptied, a preliminary injection of a solution of bromide of potassium was made into the rectum; and then with a hypodermic syringe and needle, puncture of the sac was made through the membranous zone and in the right upper quadrant. Thirty minims of the contained fluid were drawn off, and twenty minims of Morton's iodine fluid injected. The opening made by the needle was immediately sealed by collodion and cotton-wool, and collodion applied around for some distance. When this was dry and firm, the leaden cap was replaced and fixed by the binder. The child became during this process extremely limp, and his breathing very shallow, the pulse being almost imperceptible. He was extremely sleepy, and rapidly sank into unconsciousness if left alone for a few minutes, but slapping would rouse him for a short time, and he cried feebly, only again to become comatose when left alone. Weak brandy-and-water was given in small but frequent doses, and the child was constantly roused and the skin stimulated. He swallowed with comparative ease. This condition lasted for about an hour, and gradually passed off. There was no convulsive movement at any time. (Query: Was not this state due to the bromide injection?)

16th.—The infant has slept quietly all night, the bowels and bladder have acted, and he sucks well. There has been no oozing from the point of puncture.

20th.—The cyst filling again; has been perfectly flaccid.

23rd.—The cyst is as large as ever. A new cast was taken, and a new leaden covering moulded from it applied. The legs were straightened as far as could be by manual force, and put up in Bavarian plaster splints.

Dec. 10th.—The cyst is about two-thirds its original size. The child is healthy, and developing well. All the sutures are wide, the saggital suture being one-fifth of an inch. The foutanelles are widely open, and the frontal bone is open to the glabella; the occipital bone is, however, only deeply notched. Twenty minims of Morton's fluid were injected guttatim in the same region as before. The child did not appear disturbed by it. There was slight oozing just after the puncture, which was speedily closed by collodion and wool.

14th.—The sac is about one-third its original size. The surface is healthy; this has been protected all the time by the leaden cap and cotton wool.

29th.—On removing the plaster bandages, the good effect was very marked. The right foot remained at the improved angle, and showed no tendency to revert to its original position. It could be still further drawn outward, so as with ease to assume the normal position. The ligaments and tendons appeared to have lost their tension. The foot was again put up in a perfectly straight position, which appeared to give the child no pain. The spinal tumour was much smaller, about a quarter of its original size, and its coverings were much thickened. The skin, which at first only covered its base and a small area of its wall, nearly covered the whole tumour, except at its apex and a small segment of each side. The child's head was apparently larger, and the sutures were widely open.

Jan. 7th, 1889.—The spinal tumour is now the size of a small chestnut, and much the same shape; feels hard and firm, but on the left side there are still some small patches of bladder-like membrane; the rest is now covered by healthy looking skin. Twenty drops more of the fluid were injected through this portion. The injection gave no pain, and the child went to sleep directly afterwards. The needle, in its passage, gave a sensation as though entering tough connective tissue. Both feet were uncovered, and were nearly straight, but after a few minutes slightly returned to the varus position. The left heel was well down, but the right still showed some amount of equinus. Both feet were put up again in plaster, and an attempt made to over-extend and abduct the right foot. This could easily be done manually; but, as the plaster bandage set rather rapidly, and the child was restless, the final position was not quite so good as desired. There were a few wrinkles of loose skin over the external ankle. The cranial measurements were: vertically, from glabella to occiput, 29 cm.; and from auditory meatus to meatus, 29 cm.; longitudinally around base, 42 cm. There was a tendency to turn the eyes upwards, but no twitching or convulsive movement; the eyes followed the light, &c.

8th.—This morning the child is said to have had a very slight convulsion, the eyes being carried upwards; but five minutes afterwards he appeared in a normal condition.

13th.—No further seizure. The tumour is now quite flat, firm, and dense, about the size of a halfpenny, and twice as thick; no pain on handling; no soreness or ulceration of surface. It is now covered by a cotton-wool pad and strapping. The infant is perfectly well and thriving.

Feb. 17th.—Hair is growing rapidly around the tumour, which is now almost flat, and perfectly firm. Both feet have a slight varus tendency, but can be placed perfectly straight. Their muscles, however, do not respond to faradaic or other stimuli, and sensation is dull over the whole leg as far as the knee. Massage to be used daily; faradaic current twice a week.

CASE 2.—Robert R——, aged ten days. Is the fourth child. None of the others deformed in any way. The mother had a fall downstairs during the sixth month of pregnancy, but this was followed by no sign of miscarriage. The father is perfectly healthy. The labour lasted twelve hours, but was normal in every respect. The amount of amniotic fluid was about one pint.

When seen on Jan. 20th, 1889, the child was observed to be a weakly miserable-looking one, and came from a very neglected home, where it had evidently not been properly nursed. It took the breast, but not well. The spinal tumour was seated over the third lumbar vertebra, was very tense, and covered for two-thirds of its surface by membrane only; in the centre of this was an elongated shallow ulcer, a quarter of an inch wide and about three-quarters of an inch long. The skin was nævoid around for a space varying from a quarter to half an inch. The legs were well formed, and there was no talipes. The muscles acted freely, but there was no paralysis. The cranial measurements were—basial, 39 cm.; vertical antero-posterior, 23 cm.; vertical transverse, 26 cm. The sutures were widely separated, especially the sagittal and fronto-parietal, the inter-frontal was closed. The frontal veins were distended. In this case no fluid was withdrawn from the spinal sac, but fifteen minims of Morton's fluid were injected at once. The puncture bled, but was quickly stopped by collodionised wool. The whole was covered by boracic ointment and a leaden cap. The child cried a little, but there were no nerve symptoms, convulsion, or spasm at the time of puncture or for two hours afterwards. The mother, however, declared that whilst going home the child had a convulsion, and had been more or less convulsed ever since. She did not, however, send or bring it until Jan 22nd, when the child appeared to be moribund, with some twitching of the face and arms. The feet were motionless. The breathing was extremely shallow. There was no pulse at the wrist. The spinal tumour was bluish-red, swollen, and looked as though about to slough. There had been no oozing. He died on the 25th. No post-mortem examination was allowed.

Remarks.—Both these cases were operated on by Dr. Morton's method, and, following his advice, they were treated at an earlier period than that recommended by the Clinical Society's report. I see no reason to regret having done so, although a fatal result took place in the second case. This child was so puny, and living amongst such unfavourable surroundings, that I am certain that he would have died, though possibly not so soon, if he had been left alone; whilst the rapid way in which the tumour was enlarging and its widely ulcerated surface, rendered it imperative that if anything were to be done at all it should be done at once. There is a doubt whether the injection of potassic bromide per rectum beforehand would not have given the child an additional chance. This manœuvre was practised in the first case, but it was followed by so alarming a condition of stupor, lasting for an hour, that it was thought wise to omit it in the second. Still, the first child escaped all convulsive reaction, whilst the latter evidently died from the exhaustion produced by continuous general spasm. In a future case, I should prefer to inject, perhaps, rather a smaller amount. I cannot find that anyone has mentioned the use of this precaution before. The lead cap was found extremely useful. It was carefully beaten out to form an exact covering upon a mould previously taken in plaster, and thus fitting accurately it prevented all friction over the delicate and ulcerated surface. Its weight was of no importance, as the child lay upon it. Dental wax was first tried, but proved useless, as the child's own warmth softened it. The first child is still under treatment for the talipes, but the back remains perfectly sound, and he is otherwise in good condition.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Osteo-arthritis of Hands.—Ankylosis of Lower Jaw.—Hemiatrophy of Tongue.—Traumatic Cephalhæmatoma.—Sarcoma of Tonsil.—Resection of Bones of Forearm.—Chyluria.—Extirpation of Larynx.—Middle Ear Disease.—Leontiasis Ossea.

AN ordinary meeting of this Society was held on April 26th, the President, Mr. Christopher Heath, being in the chair.

Dr. KINGSTON FOWLER showed a case of advanced Osteo-arthritis of both hands in a German, seventy-one years of age. He had suffered from acute rheumatism, but had had no severe pain in the hands then or since; it had been stationary for the last five years. There was deviation of the fingers to the ulnar side with dislocation of some of the phalanges, but no ankylosis. The heart sounds were normal, and there was no renal mischief.

Mr. W. H. BENNETT exhibited a case of Bilateral Ankylosis of the Inferior Maxilla which was treated by excision after complete failure of other methods. The patient was now able to open the mouth to the full extent.

Dr. BARLOW showed a case of Hemiatrophy of the Tongue associated with Cervical Spine Disease. The patient, a little boy, was pitched out of a wheelbarrow on to his head, and afterwards had a stiff neck, ineffectual cough, regurgitation of food, and then gradually followed hemiatrophy of the tongue. Sir James Paget had recorded a similar case in the third volume of the Society's Transactions.

Mr. MAKINS showed a girl, who, when three years of age, was dropped downstairs, striking the right parietal bone. A swelling formed which, five months afterwards, commenced to pulsate, and an opening in the bone was felt, which increased rapidly in size; the edges of the opening were everted and raised. The left side of the body was smaller than the right, and showed some rigidity. The previous history of the case is recorded in the twentieth volume of the Society's Transactions.

Mr. MAKINS likewise exhibited a case of double Pirogoff's Amputation. The operation was performed in 1883, and good stumps resulted. The patient, by the aid of artificial feet, walked very well, and was really a little taller than before the operation.

Mr. RAYMOND JOHNSON showed a case of Lympho-sarcoma of the Tonsil in a man aged sixty-seven, who had suffered from syphilis forty years before. The growth had been noticed for four months, and there was an enlarged gland beneath the sterno-mastoid. It was proposed to shell out the growth by making a vertical incision over it with Paquelin's cautery.

Mr. HEATH exhibited a case of badly United Fracture of both Bones of the Forearm. The deformed parts had been resected and the ends wired together with a good result.

Mr. CLEMENT LUCAS showed a woman with Chyluria, in whom a small swelling in the lumbar region had been noticed at birth, but this had since increased in size to that of a child's head. When she was seven years old the urine became thick and milky, as in the specimens shown. Associated with the tumour was an extensive nævus invading the posterior aspect of the thigh. The swelling had a distinct bruit, and appeared to be also nævoid in character. There was probably some communication between the swelling and the lymphatics round the kidney. By means of the cystoscope chyle had been observed flowing from the right ureter. No filaria had ever been found, and it was evidently a case of chyluria unassociated with filaria.

Dr. GREVILLE MACDONALD and Mr. CHARTERS SYMONDS contributed a case of Total Extirpation of the Larynx for Epithelioma, with recovery and a useful voice. The patient, a commercial traveller aged forty-one, married, was first seen by Dr. Macdonald on April 6th, 1888. He had loss of voice, which had been increasing for the previous six months; he had never had syphilis, and his family history was excellent; he was a moderate drinker, though a heavy smoker; he complained of slight dyspnœa on exertion; he had no pain or cough, nor expectoration or hæmoptysis. The laryngoscope revealed a large, irregularly lobulated greyish-pink neoplasm, occupying the anterior three-fourths of the rima glottidis, and much of the left cord was completely concealed by it, as well as the anterior half of the right cord. On inspiration it fell, leaving the right cord free. The posterior surface of the growth presented a small superficial ulceration. Examination with the probe indicated an extensive attachment to the infra-glottic portion of the right cord, while the ventricular band was quite free from implication. Both cords moved freely, except so far as they were impeded mechanically. The posterior fourth of the left cord—the only portion visible—was greatly thickened and much congested. There were no enlarged glands. Dr. Macdonald then expressed the probable need of an external operation. A small portion of the growth was removed and examined, and it seemed to be an epithelioma. On April 14th he urged extirpation of half of the larynx; but an adverse consultation and the patient's wishes being against this, Dr. Macdonald removed the whole of the projecting neoplasm with the forceps on the 24th; hæmorrhage was rather profuse. The growth was soft and friable. On the following day the voice was completely restored; there was no trace of growth, but the left cord was uniformly thickened, rounded, and deeply congested, its movements being perfect. A week later there was seen at the junction of the anterior with the middle third, on the upper surface, a sharply defined silvery surface, flush with the mucous membrane, two or three lines in diameter. On examining this with the probe, it proved to be minutely villous. This appearance remained unchanged till July 30th, when the villous surface appeared slightly raised above the surrounding surface, and was yellowish and opaque. On August 26th there was scarcely any change. On Sept. 8th the voice was worse, the growth had taken a fresh start and was projecting over the margin of the cord, and extending to the anterior commissure. Again an operation was urged, but another opinion, while admitting malignancy, proved adverse to operation. By Oct. 20th the growth had advanced rapidly, appearing very like its first aspect in April, though more congested. Again an external operation was urged. Mr. Charters Symonds was consulted, and asked to perform the operation. Mr. Symonds then described the operation, which was performed Oct. 28th, 1888. The trachea was opened above the isthmus, and Hahn's tube inserted, through which chloroform was administered. Then a median incision was carried from the upper end of the incision to the hyoid bone; the thyroid cartilage being fully exposed, it was divided in the middle line, and, being ossified, gave some trouble. The crico-thyroid and thyro-hyoid membranes were divided and the crico-thyroid muscle. The growth was found to be larger than was expected; it involved the whole of the left cord, while the anterior part of the right looked granular and swollen. The mucous membrane and perichondrium were divided close to the upper border of the cartilage and turned off, the superior cornu being divided and left; the inferior cornu was cut off, and the mucous membrane was next divided below the cords and back to the arytenoid, and, the ala being drawn forwards, the attachment of the arytenoid to the cricoid was severed, and this cartilage dissected out of its mucous membrane covering. Then the anterior two-thirds of the right cord were removed, and the ends stitched forwards with catgut. One vessel required a catgut ligature, a branch of the superior thyroid. Hahn's tube did not completely prevent blood trickling into the trachea, but a sponge passed into the cricoid ring above the tube effectually accomplished this. Next day Hahn's tube was replaced by an ordinary cannula, surrounded with sufficient gauze to plug the trachea. The patient was fed for five days by an œsophageal tube. On the sixth he could swallow. On the seventh he got up, and left three weeks after the operation quite well. His voice was clear and good, and was said by his friends to be better than before the operation. Recurrence took place rapidly, and in December he had to be tracheotomised. Later the growth was seen budding upwards on the right side; but, being purely intra-laryngeal, its total extirpation was proposed, and was carried out on Dec. 22nd, seven weeks from the first operation. Hahn's tube was again used, and the median cicatrix opened. The larynx was isolated by dividing the attached muscles on both sides, and it was noticed that the left side had become quite hard. Then the cricoid was separated from the trachea and raised from the epiglottis without injury. The connexion of the pharynx to the back of the thyroid was divided, and the epiglottis cut through in its lower third. The immense cavity was stuffed as

before, and a feeding tube passed by the mouth and retained. This tube was removed in two days, and was passed every four hours by the wound. In ten days he was up and about. On Jan. 8th, 1889, he was able to swallow, and by the end of the month was quite well, save for the escape of saliva through the wound above the cannula. No complication of any kind occurred. He had no pulmonary complication at any time. Mr. Symonds found that the best method of dressing was to use a square of gauze, and pass its centre well down into the cricoid, and then to pack this veil full of strips. The upper part of the wound was not packed so tightly as the lower, and this allowed the saliva to escape. The patient found also that fluids were best swallowed after the second operation by lying flat upon his back. The patient was shown to the Fellows of the Society. He was in good health and spirits, and there was no sign of recurrence after four months. He could speak in a low, distinct, though gruff voice, and this was managed by passing through the upper wall of the cannula a curved tube which ran up to the base of the epiglottis, and admitted the air when he closed the cannula with the finger. This was found much simpler than the artificial larynx, and, moreover, the patient preferred the sound of his own voice. The vibrating structure appeared to be the mucous membrane of the pharynx running back from the epiglottis. This the authors thought was the first case on record in which the patient was able to speak after total extirpation of the larynx. Mr. Symonds pointed out that he was encouraged to obtain this result on account of a similar case he had heard of through a friend in Berlin. The parts removed were also exhibited. The primary growth was as large as a small hazel nut, while the recurrent one reached from the epiglottis to the lower margin of the cricoid, and had grown forwards into the ala of the thyroid. It appeared to have originated in the stump of the right cord, which had been left. A microscopic examination of the growth confirmed its epitheliomatous character. The artificial larynx, which had been obtained from Vienna, was also shown. The reed emitted a sound like an inferior toy trumpet, and could not be compared in efficiency to the voice possessed by the patient. He was able to speak in a loud though gruff voice simply by sending the air upwards through an aperture in the cannula. This was provided for by a large Durham's cannula with an opening on the upper wall immediately behind the shield, through which passed a short curved tube in a direction upwards and then slightly forwards, projecting above the lower tube about three-fourths of an inch. In the posterior wall of the upper tube was an opening to admit air to and from the tracheal tube. The pharyngeal mucous membrane falling in folds over the upper opening was thrown into vibration, and a good vibrating voice was produced. During deglutition the upper tube was replaced by another of the same size and shape, but closed above so as to prevent the passage of food &c. into the tracheal cannula. The present laryngoscopic appearances were as follows: The epiglottis appeared perfectly normal. Behind this was a funnel bounded by the lateral and posterior pharyngeal walls and the epiglottis. The apex of this funnel was composed of two folds of mucous membrane running antero-posteriorly, from between which, anteriorly, the air passed during phonation, causing them to vibrate. It was now more than four months since the second operation, and there was no sign of recurrence, and the man was in good health.—Mr. BRYANT said he was struck with the apparent simplicity of the procedure, and the diagnosis and treatment were all that could be desired.—Dr. GREVILLE MACDONALD remarked on the thickening and congestion of the part of the cord which was free of neoplasm, and also on the peculiarity of the white silvery patch which was present on the cord before the growth recurred.—Mr. CLEMENT LUCAS related the case of a patient who had a laryngeal growth, but refused operation; she had coughed up a large lump of it, and thus relieved her dyspnœa. He had removed some enlarged glands, and the patient had gone on for a long time without requiring tracheotomy.

Mr. W. ARBUTHNOT LANE read brief abstracts of five cases of Disease of the Middle Ear complicated by Suppuration in its vicinity, which he had had under his care during the last few months, and in which the complications differed in each case. He felt justified in bringing them forward for the reason that, though such cases were not uncommon, the symptoms indicative of the presence of each possible complication, or of the existence of any complication at all, were frequently very indefinite and often insufficient to enable us to make anything approaching a certain diagnosis, and the time for decision was very often so short that we could not be too familiar with the varying details of a number of cases. He considered that the risks involved in operative interference were comparatively slight, and in doubtful cases the middle ear and its vicinity should be thoroughly explored.—Case 1: A woman, aged thirty-eight, ricked her neck on Aug. 21st, 1888. She felt at the time as if something had given way in her right ear, which up to that time had caused her no trouble whatever. At the same time she noticed that pus was escaping from the meatus. She was then affected with headache, gradually increasing in intensity in the right half of the head, and with pain beneath the upper half of the sterno-mastoid. Mr. Lane saw her on Sept. 5th. Pus welled out freely from an aperture in the membrana tympani. The right ear was quite deaf. There was no optic neuritis. There was a tender and painful swelling beneath the upper half of the sterno-mastoid. The mastoid process was tender on percussion. The mastoid cells were freely opened up with a gouge, and were found to contain offensive pus, and a channel was cut into the middle ear, from which pus and caseous material were removed. The lateral sinus was seen to be healthy. A metal drain was fixed in the middle ear and that cavity irrigated daily. On Aug. 2nd an abscess beneath the sterno-mastoid was opened, and a probe could be introduced through it into the mastoid process. The patient was now in excellent health.—Case 2: A girl, aged twelve years and a half, was admitted into Guy's Hospital on Sept. 18th, 1888, under the care of Mr. Howse. In August, 1887, an abscess formed in her right ear and got well in a short time. She had no further trouble till a fortnight before her admission, when she was attacked with great pain and swelling in and about the same ear. On admission there was a copious discharge from the meatus, and a large fluctuating swelling extending for about two inches upwards, backwards, and forwards from the ear. This abscess was freely incised and irrigated, and was found to communicate through the meatus between the cartilage and bone with the middle ear. After this the girl lost her pain, and was getting on remarkably well till, on Sept. 23rd, she became a little drowsy in the morning. The drowsiness increased during the day, and the left pupil became dilated, and she vomited. At 10.45 Mr. Lane saw her in Mr. Howse's absence. The respirations were then extremely slow; she was quite unconscious, and there was no optic neuritis. Considering that an abscess in the temporo-sphenoidal lobe had probably ruptured into the lateral ventricle, he proceeded at once to open it, and removed from the temporo-sphenoidal lobe a large quantity of offensive pus and fluid. A drainage-tube was inserted, and the cavity thoroughly irrigated. The respirations gradually resumed their normal frequency, and the patient flinched when hurt. The improvement did not last very long, for on the following morning the respirations became again very slow, and the girl died. The post-mortem examination verified the diagnosis. This abscess had given no indication of its presence till within eighteen hours of death, and then the symptoms which arose were consequent upon an extension of the inflammation.—Case 3: A girl aged twelve; she had always been healthy till Sept. 13th, 1888, when she caught cold; she then observed that there was a purulent discharge from her right ear, which ceased in a few days. On Sept. 25th, when blowing her nose, she felt something crack in it, and on the following day pus escaped from the meatus and she complained of pain in the back of her head. The discharge continued and the headache increased in intensity till Oct. 4th, when there was no pain, tenderness, or swelling about the ear or mastoid process, but fetid pus escaped through a hole in the membrane. There was double optic neuritis and retraction of the head. She answered questions readily. The right ear was quite deaf. She was admitted into Guy's Hospital that afternoon. The mastoid process was opened up, and a localised collection of pus was found in its deepest part. The lateral sinus was healthy. About a drachm and a half of very offensive pus was removed from between the posterior surface of the petrous bone and the dura mater. This cavity and the middle ear were drained and irrigated daily afterwards. On the 5th the child had quite lost her headache, and the retraction seemed less marked. There was a considerable escape of pus, and she progressed very favourably till the 8th, when

the temperature ran up to 105·6° at 2 A.M.; the headache and drowsiness returned, and she gradually got worse, and died on the 14th. The necropsy showed that the dura mater pressing the wall of the abscess cavity had sloughed, and the arachnoid cavity below the tentorium was in communication with the cavity of the abscess and full of pus.—Case 4 was admitted under Dr. Perry on Aug. 15th, 1888. Since eighteen months old the patient had suffered from periodical attacks of discharge from the right ear, preceded by pain, every two months. A polypus was removed in November, 1887. On Aug. 8th, 1888, one of these attacks came on, and on the following day the discharge appeared. He vomited, and was dull and feverish. On the 15th a small polypus was removed. On his admission, on this day, he was in a semi-comatose state. Both discs were swollen. A scanty offensive discharge escaped freely through a hole in the membrana tympani. On the 16th he had a rigor. Mr. Lane was asked by Dr. Perry to see the boy, and he opened up the mastoid cells freely, but found no pus. On the 17th the boy was better in the morning, but became dull in the afternoon. He had a rigor. On the 18th he had another rigor. Mr. Lane gouged away a further portion of the mastoid process, and opened up a small collection of very offensive pus in it immediately adjacent to the lateral sinus. Similar material covered the sinus, whose outer wall and contents were soft and fetid. The lateral sinus was cleared of its septic contents upwards and downwards till apparently a healthy clot was reached. The internal jugular vein was tied below the thrombus, to prevent any escape of blood from the sinus and the entrance of antiseptic agents or septic material into the circulation. A drainage-tube was inserted into the lateral sinus, which was irrigated daily. After the operation the temperature rarely exceeded 100°, and the boy recovered very rapidly. He left the hospital on Oct. 3rd, and has continued in excellent health since.—Case 5: W. S., aged seven years and nine months. Since three years and a half of age he had suffered from attacks of earache and otorrhœa on the right side at intervals of two or three months. On Dec. 17th, 1888, he was attacked by earache, headache, and sickness. On the 23rd he had two rigors and vomited three times. The next day he had two rigors in the morning, and was admitted at 12 noon under Mr. Lane's care. Temperature 104°; drowsy. There was severe headache on the right side, tenderness about the mastoid process, and both discs were blurred. He operated at once, and found the mastoid cells tensely distended with fetid pus, the lateral sinus bathed in pus, which had escaped from the mastoid process; it was, however, not thrombosed. Pus had also escaped from the mastoid process, and collected beneath the sterno-mastoid. The temporo-sphenoidal lobe and the upper posterior surfaces of the petrous bone were found healthy. The child lost the headache immediately, but he had two rigors on the following day, and one on the day after. He suffered continuously from great pain in the abdomen, and his motions were very loose and offensive. For two days his temperature became more moderate, and except that the pain in the abdomen came on at intervals, he seemed much better. The optic neuritis cleared up rapidly. On the 29th his temperature became very irregular, and from that date he became rapidly worse, complaining of pain in the abdomen, and suffering from diarrhœa. On Jan. 4th, 1889, the base of the right lung had become dull, but aspiration with a morphia needle only yielded blood. The boy rapidly became worse, and died on the 6th. Multiple abscesses were present in both lungs, and especially in the right one. There was no thrombosis of the lateral sinus, and the brain was apparently normal.—Mr. GODLEE asked where the jugular vein was ligatured, and whether it would be a good plan to explore the groove for the lateral sinus in all cases of mastoid suppuration.—Mr. LANE, in reply, said he ligatured the jugular vein high up in the neck.

Mr. BLAND SUTTON communicated the details of a case of Leontiasis Ossea in a man twenty-four years of age. The bones of the face were chiefly affected. The symmetrical bony protuberances usually found on each side of the nose in this remarkable disease had been removed at Charing-cross Hospital. As the lower jaw had of late increased greatly in size, its right half was removed. The enlarged right upper jaw had encroached upon the orbit, producing proptosis, and on the nasal fossa, obstructing respiration. On account of these complications it was successfully removed, the patient recovered rapidly from the operation, but the pressure on the optic nerves still remained, indicating that the sphenoid bone was implicated in the disease. Until the operation was performed on the lower jaw, the case was regarded as one of exostosis, but on exposing the jaw its true nature was obvious.—The PRESIDENT had in many cases operated on, and more than once removed, the upper jaw for this affection, but he was not satisfied with the result, and in future intended to remove only the bony protuberances.

MEDICAL SOCIETY OF LONDON.

Paroxysmal Hæmoglobinuria: The Pneumatic Cabinet.

AN ordinary meeting of the Society was held on April 29th, the President, Dr. Theodore Williams, in the chair.

A paper by Dr. BRISTOWE and Dr. COPEMAN was read on a case of Paroxysmal Hæmoglobinuria, occurring in an omnibus conductor forty-one years of age, who was admitted into St. Thomas's Hospital under Dr. Bristowe's care on Jan. 3rd, 1889. He had had three years previously an attack of so-called frost-bite of the toes of both feet, and lost the toe-nails, and from that time in cold months had been liable to attacks of hæmoglobinuria, attended with shivering, dying of the fingers, &c. He was admitted as one of the attacks was passing away, and had no recurrence of them in the hospital until it was determined, with his sanction, to produce them experimentally, with the object of investigating them. About a dozen different experiments were made—some by sending him out for a walk for an hour or two, some by making him keep his hands in iced water for a time, and one by giving him a cold bath. In every such experiment the results were of the same nature, though varying much in severity. The patient generally felt chilly, and sometimes had rigors, and his temperature rose in the course of about two hours to a height varying from about 99° F. to 103° F., and then gradually sank to the normal, which, as a rule, it reached at the end of five hours from the termination of the exposure. The blood was in almost all cases examined both before and immediately after exposure, and sometimes again in the course of two or three hours. He was anæmic, and the blood was always poor in red blood corpuscles, which never exceeded four millions in the cubic millimetre, and the number of corpuscles fell between the first and second examinations between 100,000 and 800,000 in different cases. The loss of blood corpuscles continued to take place, though more slowly, during the whole of the febrile period. The effect of exposure to cold was manifested, not only by actual loss of red blood corpuscles, but by softening and loss of shape of the survivors, and by the escape of the colouring matter into the plasma. There was loss of the hæmoglobin power of the blood in mass, but little, if any, as a rule, in the individual corpuscles. There was a falling also of specific gravity. The quality of the urine began to be abnormal in from half an hour to two hours after exposure. In the great majority of cases the condition of the abnormal urine corresponded exactly to what was commonly met with in this disease. It presented a more or less dark port-wine colour, due to hæmoglobin, and contained more or less albumen but no blood corpuscles. In some cases the spectroscope revealed the presence also of acid hæmatin, and, in order to determine the relationship of this, experiments were made which showed conclusively that the pigment was always passed in the form of hæmoglobin, and that the appearance of acid hæmatin was due to the decomposition of the hæmoglobin either during its stay in the bladder or subsequent to its discharge therefrom. In one experiment, which brought on an exceptionally mild attack, the urine presented albumen only, and no traces of blood-colouring matter. The unhealthy condition of the urine was apt to be continued beyond the epoch at which the temperature became normal. It was worthy of note that the reproduction of blood corpuscles, like the destruction, was remarkably rapid. The conclusions drawn were as follows: 1. The case confirmed the observation of the association between Reynaud's disease and hæmoglobinuria, for there seemed little doubt that the so-called frost-bite was really an example of Reynaud's symmetrical gangrene, and the dying of the fingers belonged to the same pathological category, but the authors contended that the only connexion between the two diseases was that both were brought on by exposure to cold. 2. The exposure to cold exerted a direct influence on the blood, in virtue of

which the red blood corpuscles tended to break down in the systemic circulation, and that the hæmoglobin and albumen in the urine were simply the elimination of the products of the destruction. One of the experiments seemed to show that the albumen in the urine was wholly or in chief part the albumen of the blood corpuscles, and not that of the plasma. 3. The appearance of albumen alone in the urine in one of the experiments seemed to accord with the experiments of Ponfick, which showed that while the injection of large quantities of hæmoglobin into the blood was followed by hæmoglobinuria, the injection of small quantities had no such effect. In the experiment referred to, the blood corpuscles had as usual undergone disintegration, but the colouring matter had evidently been used up in the system, and the albumen only discharged. 4. Attention was drawn to the observations of Dr. George Johnson, Dr. Mahomed, and others, that temporary albuminuria occasionally followed cold bathing in healthy persons; and to the papers of Dr. Ralfe, in which he indicated a close relation between hæmoglobinuria and paroxysmal albuminuria; and the authors expressed their own opinion that, judging from their experiments above recorded, there was reason to believe that paroxysmal albuminuria brought on by cold and paroxysmal hæmoglobinuria were merely different degrees or phases of the same disease.—The PRESIDENT referred to the paper as being just of the kind required in medicine, showing careful observation supported by admirable reasoning and sound deductions.—Dr. STEPHEN MACKENZIE expressed his indebtedness to Dr. Bristowe for having assisted in filling the lacunæ in their knowledge of this interesting neurosis. The susceptibility to cold varied enormously in different patients, and he quoted a case which illustrated this. The patient was the subject of syphilis, and this connexion had been frequently observed, though in some cases no history of this disease could be traced. The rapid destruction and reformation of blood which took place was remarkable. He inquired how the specific gravity of such very small amounts of blood was estimated. As to the relationship between pernicious anæmia and paroxysmal hæmoglobinuria, in the former there was evidence of a defect of blood formation, but in the latter the blood recuperative power was extremely good.—Dr. ACLAND said that the case had first come under his own observation, and he had made out that during an attack the man first passed acid hæmatin, then acid hæmatin with hæmoglobin, then hæmoglobin only, and lastly albumen. The spectra of acid hæmatin and of met-hæmoglobin were identical. The spectroscopic reaction of blood was different in cases of hæmoglobinuria from that of ordinary hæmaturia.—The PRESIDENT asked if any of the cases had been connected with malaria, and he inquired also into the condition of the pulse and the skin.—Dr. COPEMAN gave some details as to the method of performance of the experiments. The blood was examined before, during, and after the febrile attack, and the specific gravity was taken by a modification of Professor Roy's method. A number of fluids of different known specific gravities were prepared; a capillary tube with its end turned horizontally was then charged with a minute portion of a drop of blood, and this was gently blown into the fluid. By observing whether the blood rose or sank, and repeating if necessary with another fluid, the specific gravity could be calculated to within a tenth of a degree. On the basis of the calculation that 341 millions of red corpuscles corresponded to one gramme of body weight, it was estimated that the patient lost no less than 4,032,000,000,000 corpuscles in a single attack.—Dr. BRISTOWE, in reply, said that he had traced no connexion with malaria; the pulse varied between 60 and 80, and there was no excessive perspiration.

The PRESIDENT then exhibited the Pneumatic Cabinet from New York, and explained its construction and various uses. It was of sufficient size to hold a patient in a sitting position, and by the aid of the bellows attached to it, furnished with valves which could be reversed, the contained air could be rarefied or compressed at will and a negative or positive pressure to the extent of two inches obtained. By means of an artificial glottis, air could be admitted directly to the patient's lungs from without, and if the atmosphere of the cabinet were rarefied it would enter the air passages with considerable force. The principal exercises for which the cabinet was adapted were—(1) residual air expansion or expiration into a rarefied atmosphere; (2) forced inspiration; (3) pneumatic differentiation, or the alternation of the above two exercises, which was calculated to promote the expansion of the lungs in ill-developed chests, and especially in the early stage of phthisis; (4) forced expiration or expiration through the artificial glottis, when the atmosphere was condensed. The cabinet could be used either for lung gymnastics—and in this case promoted chest extension and lung expansion, as shown by the increase in cyrtometric measurements and in spirometric capacity—or as a vehicle for medicinal agents, by vapours and sprays introduced by forced inspiration. It had been largely used in America, and the exhibited cabinet was on trial at the Brompton Hospital, which had appointed a committee to report on its merits.

HARVEIAN SOCIETY.

Inguinal v. Lumbar Colotomy, with Record of Thirty-seven Consecutive Cases.

A MEETING of this Society was held on March 28th, Dr. Buzzard, President, in the chair.

Mr. HARRISON CRIPPS, F.R.C.S., assistant surgeon to St. Bartholomew's Hospital, after giving an account of the history of Colotomy, and drawing attention to the improvements in detail introduced by Mr. Bryant and Mr. Davis Colley to the lumbar operation, further called attention to the fact that the profession was much indebted to Mr. Reeves, Mr. Lawson Tait, Mr. Chavasse, Mr. Allingham, and others, for reintroducing the inguinal or intra-abdominal method of opening the bowel. After quoting Erchelius and Batts' statistics, published in 1884, of several hundred cases of colotomy, collected from various sources, with a mortality of between 40 and 50 per cent., Mr. Cripps showed that such statistics were entirely misleading, and pointed out how, with improved methods and hygienic surroundings, the mortality might be immensely reduced. In his own cases, fifteen were performed in the lumbar region and twenty-two in the inguinal, nearly all the cases being undertaken for malignant disease. There was but a single death in each series of cases; thus the mortality was only a trifle over 5 per cent. Mr. Cripps, after thus vindicating colotomy as a fairly safe operation, proceeded to compare the inguinal with the lumbar method, and stated that he considered the former vastly superior. There were certain grave objections to the lumbar operations; amongst these were enumerated the depth of the bowel in a fat subject, and the very limited space in which the surgeon had to work the crest of the ilium and the last rib, which made it often difficult to find the bowel without some damage to the surrounding tissues. Then, again, there was often a difficulty in recognising the colon, so that numerous mistakes had been made in opening the small intestine and even the stomach. But perhaps the gravest objection of all was that it not infrequently occurred that the course of the colon was so abnormal as to make it quite impossible to find it by the lumbar wound, the attempted operation thus ending in a *fiasco*. On the other hand, the inguinal operation met all these objections. There was plenty of space, the bowel could be absolutely identified, there was no tension on the stitches, and little difficulty in finding an abnormal colon. Moreover, the inguinal method had one great advantage entirely its own—viz., that of enabling the abdomen to be explored and the site of the obstruction to be verified before opening the bowel, so that the mistake of being below the lesion could not occur. This was illustrated by two cases given in the table. The objections raised to the inguinal operation were the subsequent prolapse of the bowel and its unsuitableness for urgent cases. In the author's experience, prolapse was not more frequent from the one opening than from the other, and by a little care in the inguinal operation it could to a great extent be avoided. As to urgent cases, he had no hesitation in opening the bowel immediately, as was done in two instances narrated, with a perfectly successful result. Mr. Cripps then described in some detail the operation he performed for inguinal colotomy; the incision, two inches and a half in length, crossed an imaginary line drawn from the anterior superior spine to the umbilicus, an inch and a half from the former bony point. He considered that it was a mistake to use too many sutures, this causing unnecessary strangulation of the skin and preventing primary union. He saw no advantage in the suture passed through the mesentery, and had no difficulty in obtaining an excellent spur by attaching it to the bowel, so that two-thirds of its circumference were above the level of the sutures. The question as to when the

bowel should be opened was considered to be an important one. The author preferred to wait until the fifth or sixth day if all went well; but if the abdomen became distended, or there was the slightest vomiting, it should be opened at once. Firm pressure by a pad and several turns of bandage were very important for the first few days, for with any strain on the part of the bowel it was liable to burst away. The subsequent inconvenience arising from the new anus was but slight, the patient usually having a motion once a day, with the knowledge of when it was coming, and with the power of controlling it by pressure. In conclusion, Mr. Cripps stated that he considered the inguinal operation as now conducted was a marked advance in surgery; he believed that before long the lumbar operation would be merely retained for a few exceptional cases of complete obstruction. He now trusted, moreover, that it could be shown that the mortality was little more than 5 per cent., and that surgeons would have more confidence in the operation, and would recognise its great value as a means of relieving suffering and threatened obstruction in advancing cases of malignant disease of the lower bowel.

Mr. ALFRED COOPER said that during his twenty-five years' service as one of the surgeons at St. Mark's Hospital he had done and seen done many lumbar colotomies. He had ever felt most dissatisfied with the operation for the reasons mentioned by Mr. Cripps, and also on account of the difficulty experienced in maintaining cleanliness. Since Mr. Herbert Allingham's introduction of a modification of Littre's operation Mr. Cooper had performed none but inguinal colotomies. He had found, however, that the omission of the deep suture had led to the passage of fæces into the lower gut.

Mr. JACOBSON had of late been disappointed with inguinal colotomy. He had found a great amount of prolapse after the operation. He thought it a serious matter to open the peritoneum, as was necessary in performing the inguinal operation. The dangers of interfering with this membrane might be diminished but never abolished, and that operation should be preferred which did not necessitate such a procedure. When discussions such as this were published, operators less expert than those present were tempted to perform the operations described upon patients in cottage hospitals and similar institutions, and he believed that to such operators the dangers of inguinal were greater than those of lumbar colotomy. Lastly, it must be remembered that the patient subjected to colotomy was often suffering from a mortal disease; for such the gentler operation should be chosen, and this he believed to be the extra-peritoneal operation.

Mr. EDWARDS said he had found prolapse quite as great in lumbar as in inguinal colotomy. He believed carcinoma of the sigmoid flexure to be very rare compared with that of the rectum. He was of opinion that the advantages of inguinal over lumbar colotomy were four in number. It was easier of performance, the desired portion of bowel was more easily found, the artificial anus was more conveniently placed for the patient, and also when there was considerable distension of the abdomen the danger of turning the patient over was avoided.

Dr. BALL of Dublin believed that Mr. Cripps had made out a good case for the intra-peritoneal against the extra-peritoneal operation of opening the colon. He further thought it impossible in such an operation to open the intestine below the stricture, as he had seen done in the lumbar operation. In extensive meteorism he preferred the lumbar operation. If the inguinal method be adopted, the abdominal cavity was most easily opened through the linea semilunaris.

Dr. CURTIS of New York said that in America colotomy was preferred to resection of the rectum in all severe and extensive cases of cancer. The inguinal operation was almost entirely performed in preference to the lumbar operation. He himself had operated upon a patient with great meteorism, and had found that the incision did not fall over the centre of the sigmoid flexure, and this led to great difficulty in the operation. An opening into the general peritoneal cavity thus produced had had to be filled up with iodoform gauze before the bowel was sutured.

Mr. BRYANT had had only a limited experience of inguinal colotomy. He had done it only for congenital malformation. He had rarely seen difficulty arise from prolapse in any of the large number of cases of lumbar colotomy he had performed. He had not experienced much difficulty in finding the portion of the bowel he wished to open. He therefore still advocated lumbar colotomy in preference to the inguinal operation. He insisted upon the greater risk of cancer attacking the wound in inguinal than in lumbar colotomy.

Mr. HERBERT ALLINGHAM had performed eighteen inguinal colotomies, and had found it much easier than lumbar colotomy. He still, however, thought that lumbar colotomy had been abused, and that the mistakes made in the operation were due to carelessness. In lumbar colotomy the peritoneum was opened a great deal more frequently than operators were aware of. It was, he believed, better to open the peritoneum with the certainty of finding the large intestine than to grope for it in uncertainty.

Mr. BENTON had seen a case in which the prolapsed gut would half fill a peck measure. He believed that prolapse was as frequent from the lower as from the upper portion of the bowel. He generally opened the bowel on the third day, and he treated distension by pricking with a grooved needle.

Mr. CRIPPS, in reply, said that he was inclined to think Dr. Ball's suggestions as to the operation valuable. He had had little trouble from prolapse, and such as there had been was from the upper portion of the bowel. He considered the question of cleanliness not a very important one. He thought the inguinal colotomy the more preferable because it was easier than the lumbar operation, for the latter might not only be difficult, but even impossible. He believed it had been shown that it was not much, if at all, more dangerous to wound the peritoneum than any other structure of the body.

HUNTERIAN SOCIETY.

Plastic Operation for Contraction of Cicatrix.—Amputation through Knee-joint.—Injury to Lower End of Humerus.—Rickets.—Antiseptic Power of Salol.

A MEETING of this Society was held on Wednesday, April 10th, Mr. R. Clement Lucas, President, being in the chair. It was a clinical evening.

Mr. RIVINGTON showed a case of Plastic Operation for Contraction of a Cicatrix, the result of a Severe Burn. H. S——, aged eleven, became an in-patient at the London Hospital in September, 1887, suffering from a burn over the whole of the right pectoral region, and extending down the right arm from the front of the shoulder to the front of the wrist. After he left the hospital the cicatrix contracted, preventing extension of the elbow and abduction of the arm. As division of the cicatricial bands with subsequent extension did not remedy the deformity, the patient was admitted into the hospital on Sept. 24th, 1888, and on Oct. 9th an oblong piece of the cicatrix, about four inches and a half by two inches, was dissected off the front of the right elbow-joint. Then a flap of skin and fascia of rather larger dimensions was raised from the side of the chest from behind forwards, and stitched on three sides to the edges of the wound in the arm, leaving the base attached. The limb was secured to the side after the application of iodoform and oiled lint to the wounds. The base of the flap was cut through on the 16th and stitched to the arm. By the end of the month the wound had healed. The operation was very satisfactory, as it resulted in the restoration of the power of extending the limb. Abduction was improved by further division of the cicatrix, extending from the chest to the arm.

Mr. RIVINGTON also showed a case of Amputation through the Knee-joint by Brinton's Modification of Stephen Smith's Operation by lateral flaps. William J——, fifty-three, was admitted into the London Hospital on Dec. 21st, 1888. Thirty years before he had met with an accident to his right leg near the ankle, probably a Pott's fracture, as the foot was displaced. Sinuses opened near the ankle and had discharged ever since. Three weeks before admission inflammation occurred near the knee-joint and an abscess formed on the inner side of the leg below the patella. After it had been opened a sinus remained leading to bare bone, and continued to discharge very offensive pus. The patient suffered great pain with febrile disturbance. The limb had been practically useless, and as the tibia was evidently extremely affected, his general health suffering, and there was no prospect of lasting benefit from a minor operation, amputation was recommended and performed on Jan. 22nd, 1889. The operation was performed at the knee-joint by lateral flaps commencing below the

tubercle of the tibia. The patella and semilunar cartilages were left *in situ*. The wound was well washed with solution of the perchloride of mercury and the stump dressed with iodoform and wood wool. Drainage was provided. The chief events after operation were the formation of an abscess in front of the femur under the quadriceps tendon, necessitating incision and drainage on Jan. 26th, and of one or two smaller abscesses higher in the thigh in February. By March 15th nearly all the openings had healed, and a notable improvement had taken place in the patient's general condition on April 8th; the stump was healed, with the exception of one sinus at the back; the semilunar cartilages were drawn to the back of the condyles, and the cicatrix lay between them. The patient was exhibited to show the nature of the stump left after amputation through the knee-joint by the method adopted.

Mr. BIDWELL showed (for the President) a case of Injury to the Lower End of the Humerus. A boy aged five, under the care of the President at the Evelina Hospital, thirteen weeks ago had a fall on his hand, and is said to have dislocated his elbow. Splints were applied for a few days only, and after they were taken off the bad position returned. There was considerable deformity of the elbow, which was only slightly movable; extension not permitted; arm wasted and circumference of elbow increased by three-eighths of an inch. The distance between the condyles of the humerus was increased by three-quarters of an inch. The outer half of the articular surface of the humerus was displaced somewhat forwards and outwards. The union was complete. The ulna was in normal relation to the humerus. The probable injury consisted in a fall upon the radial side of the hand, pushing up the radius against the radial head of the humerus, and causing a fracture running from just above the external condyle to the middle of the articular surface. The treatment recommended was excision.

Mr. BIDWELL also showed (for the President) a very typical case of Rickets in a boy aged three years and a half, under the care of the President. The head was much enlarged, with depression over its fontanelles, which never closed; the prominence of the occipital region, the stumpy appearance, the contracted chest, with well-marked beaded ribs, the elevation of the sternum, the prominence of the abdomen, with enlargement of both liver and spleen, the bowing forwards and outwards of the femora and tibiæ, with marked lordosis, and genu varum, were all very characteristic. The enlargement of the wrists was also marked. The child had never walked. It had been improperly fed, but no family history of rickets or of syphilis was obtainable.

Mr. CORNER introduced a series of cases illustrative of the Antiseptic Power of Salol (salicylate of phenol) as a dressing for wounds, after the part had been rendered aseptic by a 1 in 20 solution of carbolic acid. He did not claim for it greater power than iodoform, and probably other antiseptics, but it had advantage over some. It possesses a pleasant aromatic odour, can be used freely without fear of irritation or poisoning, is absorbent of moisture, which drying forms a hard but friable covering. It will prevent putrefaction; it will not destroy it when once established. It has been used in increasing frequency for several years at the Poplar Hospital, and with excellent results, in compound fractures and dislocations, also as a dressing in amputations, minor and major, and in compound comminuted and depressed fractures of the skull. The first case shown was a compound comminuted depressed fracture of the frontal bone, in which the bone was elevated and some spicules removed. Afterwards the wound was washed with a solution of carbolic acid (1 in 20), the opening filled with salol, and a drainage-tube inserted. The dressing was undisturbed for fourteen days, remained sweet, and healed on the twenty-sixth day. His temperature remained from the first under 100°. A second case treated in January, 1889, was a compound fracture of the olecranon, head of radius, and humerus, opening the elbow-joint, with considerable damage to soft parts, the elbow having been crushed by the passage of a railway engine over it. The olecranon was splintered and drawn up, causing serious tension of skin and necessitating removal of both portions. The antiseptic treatment and dressing were the same as in the previous case, but required changing after four hours and again next day, in consequence of oozing through. The parts were then left untouched for thirty days. The temperature went up the day after the injury, and remained about 101° for three days, 100° for two days, and then fell to normal. Two other cases were shown: one a crushed compound fractured finger, dressed twenty-one days before, and not exposed since, there having been neither pain nor elevation of temperature; the other was a compound fracture of first phalanx of finger, only dressed at the time of the accident, and left undisturbed for a month, when it was found perfectly healed. It was pointed out that this was the common experience in such cases, and that even if gangrene followed the parts remained sweet.

Dr. G. A. CARPENTER showed: (1) Case of Retinitis Pigmentosa; (2) Drawing of Tubercle of Choroid, from a case of general tuberculosis.

Dr. F. J. SMITH showed: (1) A case which had been diagnosed by Dr. Hughlings Jackson as "Glioma of the Pons"; (2) Case of Disseminated Sclerosis, to which was superadded some specific lesion of the cerebrum.

MIDLAND MEDICAL SOCIETY.

AT a meeting held on March 6th (Mr. Hugh Ker, F.R.C.S. Edin., President, in the chair) the following living specimens were exhibited:—

Congenital Absence of Fibulæ.—Mr. WILLIAM THOMAS exhibited a child aged four, in whom there was congenital absence of both fibulæ and corresponding parts of feet—viz., the outer two metatarsal bones and phalanges. The feet were in a condition of rigid talipes valgus. He intended to divide the tendo Achillis, and by a specially constructed apparatus to supply the function of the absent fibula.

Resection of portion of Tarsus.—Mr. THOMAS also showed a boy on whom he had performed the operation of tarsectomy. The limb was put up at the time of the operation, and the dressings removed for the first time on March 4th, when it was found soundly healed.

Hydrocephalus.—Dr. WELCH introduced three cases of hydrocephalus, occurring in the same family.

Hæmophilia.—Mr. BARLING showed a patient, a male aged thirty, the subject of hæmophilia and hæmarthrosis. About fifteen years ago the patient first suffered from sudden swellings of his knee-joints, the swellings arising without cause and recurring at intervals. The elbow-joints and the right ankle also suffered in the same way, the effusion being at times followed by blood-staining of the superficial tissues. Several times severe and dangerous hæmorrhage had followed from small wounds, and there had also been hæmaturia, hæmatemesis, and epistaxis. The patient's father is alive, but his mother died of phthisis; one brother died, aged ten, from hæmorrhage; a maternal uncle is also a "bleeder," and has sudden swellings of his joints; a sister's child bruises very easily. Ten years ago the patient had rheumatic fever, with endocarditis, which produced an aortic murmur. The soft tissues over both knees are thickened, especially on the left side, and flexion in each is limited in each to an angle of about 35°. Both elbows are limited in their extension, but the right ankle moves freely. Dr. Wickham Legge had described several joints deranged by hæmorrhage in hæmophilia, in which thickenings and adhesions of the synovial membranes and erosions of the cartilages were found. In one of his cases there was also endocarditis, and it seemed probable that in these patients the marked joint changes were produced by hæmorrhage in tissues which were very liable to react to slight irritation; this was especially so in view of the fact that the microscopic changes found were similar to those of chronic rheumatic arthritis.—Mr. HALL EDWARDS showed a boy who was the subject of hæmophilia.

Dr. SUCKLING read a paper on Syphilis of the Nervous System.

The following are notes of the proceedings at the meeting on March 20th.

Sporadic Cretinism.—Dr. SUCKLING showed a girl aged four years suffering from sporadic cretinism. The child was born in Birmingham, and had been well cared for, but the mother had noticed that it was not right from birth, the voice being very peculiar and the tongue protruding. The mother had a second child, which was all right, but it died from convulsions following whooping-cough. The father of the child was said to have been a steady man, and to have died from inflammation of the lungs. A half-brother of his had an idiot child. The child's paternal aunt was a confirmed inebriate, and was under treatment for alcoholic

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paralysis. The child had exactly the appearance of myxœdema, the skin of the face being pale and translucent, with œdema of the upper and lower eyelids, not pitting on pressure. The nose was broad and flattened; the lower lip large, slightly cyanosed, and drooping. The tongue usually projected from the mouth, being very large, with hypertrophied papillæ. The skin generally was very rough, especially that of the hands and feet, which were swollen, cold, and cyanosed. The child was stunted, measuring only 26 in. in height (the proper height being about 36 in.), and weighing 24 lb. The circumference of the head was 18½ in. The forehead did not recede very much, and the occiput projected well, the vertex being flattened. The teeth were all decayed, and the hair was coarse and scanty. The fontanelles were closed. The arms and legs were short, the body long, but the abdomen was not much swollen. The child was of a very placid and tranquil disposition; it could only utter a few words, and was quite unable to stand. No trace of the thyroid gland could be felt. The neck was short and thick, and there were no fatty tumours in the posterior triangles. The temperature was subnormal. The urine could not be collected, but it was free from albumen. The child's condition had not followed on any infantile disease, but had been present from birth.

Hemiplegia from Inherited Syphilis.—Dr. SUCKLING also introduced a boy aged three, who had been under his care when three months old, suffering from snuffles and mucous tubercles around the anus and mouth. When two years of age choroiditis disseminata and nystagmus were discovered. The child did well on iodide of potassium and hydrarg. c. creta. A few weeks ago the child complained of headache, and shortly afterwards became hemiplegic. The movements on the paralysed side were weak and tremulous. The choroiditis was still present to the same extent as when first discovered.

Eruption due to Brass-grinding.—Dr. CARTER showed a boy suffering from a papular eruption. A large number of the workmen in the same foundry were affected in a similar way, and Dr. Carter, after a careful investigation, had come to the conclusion that it was due to the use of oil in the process of brass-grinding.

Dr. PURSLOW exhibited a man who was suffering from Syphilis in an unusually severe form.

Dr. MALINS showed a Dermoid Tumour of the Ovary that he had recently successfully removed.

Mr. JORDAN LLOYD exhibited a specimen of Enchondroma of the Submaxillary Gland; the bones from a case of Excision of the Knee in which union had been perfect; Fibrous Bodies removed from the Prostate by the Suprapubic Incision; and a specimen of Subluxation of the Astragalus, for which he had recently performed amputation (this accident occurred twenty-six years ago, and the condition had not been recognised at the time).

Mr. HUGH KER read notes on a case of Removal of the Ovaries for Epilepsy, in which great benefit had followed the operation.

Dr. SIMON read a paper on the Treatment of Sciatica.

IPSWICH CLINICAL SOCIETY.

THE first meeting of this Society was held in the Board-room of the East Suffolk Hospital, Ipswich, on Wednesday, April 10th. An inaugural address was given by the President, after which the following cases illustrative of Spinal Disease were read—viz., a case of Spinal Myelitis following Pott's Disease, by Dr. Casley; a case of Spinal Meningitis, by Mr. Hetherington; and a case of Syphilitic Sclerosis of the Spinal Cord, by Dr. Hollis. Dr. Goodhart then read an interesting paper on the Use of Ice in the Treatment of Pneumonia, illustrated by numerous temperature charts. The paper was much appreciated and was followed by a good discussion.

HOUSING OF THE POOR.—In connexion with the Exhibition an International Congress on the Housing of the Poor will be held at Paris on June 26th, 27th, and 28th next. An influential committee of patronage is now being formed. A fee of twenty francs entitles to membership, and members will be privileged to take part in the meetings and to receive copies of all publications issued by the Congress.

Reviews and Notices of Books.

Onderzoek naar den aard en de oorzaak der Beri-beri, en de Middelen om die Ziekte te Bestrijden. (An Investigation into the Nature and Origin of Beri-beri, and the Means, to be adopted for Counteracting the Disease.) By Drs. C. A. PEKELHARING and WINKLER. Utrecht: Kemink & Son. 1888. Pp. 128; with 8 Plates (Dr. C. L. VAN DER BURG).

[FIRST NOTICE.]

THIS work—the result of the investigations in the East Indies of Professor Pekelharing and Dr. Winkler, of the University of Utrecht—embraces all that is known at the present moment of this endemic affection. The introduction gives a short account of their residence in the colony, and their method and means of working, while it pays a tribute of gratitude to the medical profession located there for the valuable aid rendered them in many ways. After a short disputation as to the meaning and derivation of the word "beri-beri" (Malay, "biribi" = abrupt and tripping gait; Hindustani, "bharbari" = swelling; and the Japanese "kakke," from the Chinese "kiaku-ki" = disease of the legs), and a short historical sketch of the discovery and appreciation of its symptoms from the earliest times, they proceed to deal with the clinical observations *in extenso*. First, then, comes the important statement, that "beri-beri has no dependence on anæmia for its symptoms." Since 1882, when Scheube[1] published his investigations, the majority of medical men resident in Japan, China, Lower India, the Malayan Archipelago, Borneo, Java, Mauritius, &c., have come to regard beri-beri as the result rather of a multiple neuritis than of a spanæmic or anæmic state. On page 86 it is stated that "almost universally also has this affection been regarded among medical residents as a disorder of infectious origin." While on page 12 we find that Scheube and Baelz,[2] among others, gave it as their opinion, "without examining the blood microscopically," but purely from clinical data, that anæmia was neither a constant nor an important factor. The chemical investigations of Schneider,[3] moreover, have shown that the number of blood-corpuscles may be increased as well diminished in this affection. Scheube also denies that any weight can be attached to the formation of crenate corpuscles, and the diminished tendency to the formation of rouleaux. Hence it is that we find in the various descriptions of the malady the contradictory statements as to the presence and influence of anæmia: some writers averring that a healthy appearance, with an occasional and slight tendency to anæmia, marks the disease; while others regard an acute anæmia as one of the most constant symptoms. The considerations as to the initial stage of beri-beri (pp. 13–19) are of great importance. Drs. Pekelharing and Winkler are the first who make any mention thereof, who give a detailed account of its symptoms, and who furnish the reason why this has been overlooked by previous observers. This initial period is characterised "by a quantitative alteration, evidenced by a diminution in the susceptibility to the electric influence, usually for both species of current; frequently, too, by a qualitative change in the electrical reaction of those muscles which determine the flexion of the foot..... in addition there is an increase in the diameter of the circumferential measurement of the calf of the leg." This increase is illustrated by a series of sketches. It is difficult to estimate the utility of this discovery too highly, from a scientific standpoint, since by it many obscure symptoms of this affection can now be explained, as well as from a practical one, since the symptoms of this period can neither be feigned nor concealed. There will therefore no longer be any fear of

[1] Beitr. zur Geschichte der Kak-ke, 1881; and Die Japanische Kak-ke, 1882. [2] Infectionskrankheiten in Japan, 1882.
[3] Prager Vierteljahrschr. für Pract. Heilkunde.

confounding this malady with others, since the above-mentioned phenomena are rarely concurrent with other symptoms; occasionally, however, pain and a feeling of heaviness in the legs or cardiac hyperexcitability accompanies them. It is only natural that "subacute beri-beri, the dropsical atrophic form" of this disease, should be primarily considered by the writers, since it is of most frequent occurrence. The similarity of onset determines for the most part the similarity of the differentiable forms of this affection. Following in the wake of Van der Elst[4] and others, they regard this dropsical atrophic form as the simplest and most typical—an opinion strengthened by Da Silva Lima,[5] Scheube, and Van Leent.[6] The cases for description as types of the disease appear well selected, and two detailed accounts follow of so-called acute beri-beri, which mutually evince a marked digression from the ordinary primary symptoms, but which nevertheless individually furnish proof that a premonitory initial stage had existed. The important result obtained by these experimenters and investigators is thus further corroborated, since, as they remark, "it is absolutely impossible that in one day the direct muscular irritability should have diminished in such a measure as we discovered in the above-mentioned cases." On the same page (28th) they give a more detailed account of this initial period. In this description the following is to be found: "The face assumes the typical pasty appearance—the masked appearance, so to speak—whereby experienced medical men have recognised the onset of this malady long before other and more positive phenomena had been demonstrated." After having closely considered "that form in which muscular spasm predominates" and "the atrophic form of beri-beri," for the demonstration of which three well-marked cases are brought forward, the writers come, at page 39, once more to a consideration of the premonitory signs. They next give a short and succinct account of the further progress of this malady, then a consideration of the exacerbations which up till recently have been at times regarded as a distinct species, or "an acute pernicious form of beri-beri"; and, lastly, they adduce the evidence that the period of duration and course of the disease varies from five to six weeks before a fatal termination. Since the electrical changes in the nervous system and in the muscles have been proved by them to be a constant phenomenon from the onset in this malady, it is not surprising that particular attention is paid thereto in this report. The phenomena which appear in the "atrophic" and the "dropsical" forms are fully regarded in a subsequent chapter, and are referred to the changes which occur in the nervous and muscular systems. Three well-marked cases serve as illustration. Following one another, there are now considered "the development of the motor disturbances in beri-beri," "the beri-beri gait," "the development of the sensory disturbances," "the development of the vaso-motor disturbances," and "the cardiac symptoms." The writers deny that there is anything typical about the beri-beri gait, regarding the abnormality as merely dependent on and proportionate in regard to the number of muscles implicated and rendered useless, though distinct electrical digressions may exist without any definite divergence from the normal being noticeable in the gait. The description, moreover, tallies with that given by other writers, and the phenomena are closely referable to the nervo-muscular lesions. The development of sensory disturbances is taken up in a too rigidly consecutive order; digressions from this order are certainly known. With the occurrence of pain we find no mention made of the influence exerted thereon by the time of day, the weather, or the amount of active bodily movement, influences certainly of great importance. The vaso-motor disturbances, and the symptoms of cardiac affection are likewise interpreted in the light of the degeneration which the nerves controlling these parts undergo. After a few remarks on the vomiting and the feeling of anxious apprehension so characteristic of the complaint, they close their consideration of the clinical phenomena by giving a scientific and typical description of beri-beri, which intentionally in no ways includes all the symptoms. An image is thus put before us which includes all forms of this malady, and which clearly brings to light the unity of these widely differentiable forms. This typical sketch has thus an extraordinary value, though to a beginner in the investigation of the malady it may not appear complete enough whereby to recognise each case. But this was not the intention of the writers. They wished, without entering into detail, without fixing the attention on definite modifications, to furnish a complete clinical picture of the disease.

[4] Geneesk Tijdschr. von Nederl. Ind., 1879.
[5] Ensaio sobre o Beri-beri no Brazil, 1872.
[6] Archiv. de Méd. Nav., 1867-69-72-75-79.

Analytical Records.

SOZOIODOL (TROMMSDORFF), AN ODOURLESS SUBSTITUTE FOR IODOFORM.

(SOLE AGENT, F. BOEHM, 27, BILLITER-SQUARE BUILDINGS, LONDON.)

THIS very interesting addition to materia medica is the acid known to chemists as di-iodo-phenol-sulphonic acid, and is said to be the symmetrical or para variety. We do not find it in Beilstein's great work, although the corresponding chloro and bromo derivatives are described. The formula $C_6H_2OHI_2SO_3H\ 2H_2O$ shows that the acid, while it retains the structure of carbolic acid (phenol), contains 55 per cent. of iodine and 7 per cent. of sulphur in the form of the sulphonic radical. The phenol is almost exactly equivalent to 20 per cent. The acid and some well-defined and beautiful salts are prepared by Trommsdorff, of Erfurt; and it is the salts, particularly those of sodium, potassium, zinc, and mercury, which are recommended for medical use. We have examined these salts, and find them genuine, well prepared, and entirely free from smell. Iodine is very readily displaced from them.

HINTZ'S COCOA.

(HINTZ AND CO., COPENHAGEN; H. A. ENGLISH, 69, CHANCERY-LANE.)

We find that this cocoa is perfectly pure, fine in flavour, and remarkably free from fat, containing, according to our analysis, only 19·5 per cent.

DENAEYER'S LIQUID PEPTONE OF MEAT (STERILISED.)

(THE DENAEYER'S PEPTONES COMPANY, LIMITED, 118, BISHOPSGATE-STREET WITHIN.

This is in all respects a most valuable peptonic food. It is a perfectly bright syrupy liquid, of about the colour of pale sherry. It is faintly acid, has distinct peptonising power, as was found by experiment, and gives no precipitate when boiled with a few drops of acetic acid. It may therefore be classed with good malt extract, inasmuch as it is partly a concentrated and already digested food, and partly a digestive ferment. If we add that the flavour is delicate and the bitter peptonic taste absent, it will be seen that the preparation is a highly important one.

DENAEYER'S LIQUID PEPTONATE OF IRON (STERILISED.)

This, like the last, is a preparation which merits great praise. To the meat-peptone, which, as we have already shown, is excellent, dialysed iron in suitable quantity is added. The result is a food tonic tasting like a meat extract, and adapted for ready assimilation. We found the fluid faintly alkaline, dark in colour, and almost free from the taste of iron. Hydrochloric acid gave at first a precipitate and then a yellow ferric solution, a reaction very characteristic of the soluble variety of ferric hydrate. Ferrocyanide of potassium gave no blue colour until after acidulation.

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MALCOLM WATSON'S INVALID PORT.

(HUGHES & MORRIS, 4, SAVOY-STREET, STRAND.)

Analysis gave the following results in parts per cent. by weight:—

Alcohol	12·55
(Equal to 27·10 per cent. proof spirit.)	
Syrupy extract dried at 100° C.	16·02
Ash	·50

Soluble and insoluble phosphates and a small quantity of manganese were found in the ash. Ferric chloride showed the presence of tannin. The wine is full-bodied and sweet, and seems well adapted for the uses for which it is intended.

THE SOVEREIGN KNIFE POLISH.

(JOHN JOHNSON & CO., LIVERPOOL AND LONDON.)

Two kinds of polishing material have been sent to us, one intended for cutlery, the other for plate. We observe no novelties in them, except that "sanitas" is incorporated in each, with the intention of disinfecting as well as cleaning the articles operated upon. No useful end can, in our opinion, be attained by the addition, for the danger suggested is a mere chimera.

OPPENHEIMER'S CREAM OF MALT WITH COD-LIVER OIL AND HYPOPHOSPHITES.

(OPPENHEIMER BROS. & CO., SUN-STREET, FINSBURY.)

There seems to be no novelty in this preparation. It is a well-prepared emulsion, and the malt extract is active—that is, it readily converts gelatinous starch into dextrine.

"SANTHA" DIGESTIVE TEA.

(DARJEELING WORKS, HATCHAM, S.E.)

The preparation of this tea extract, for such it avowedly is, is founded on true scientific principles, and "Santha tea" deserves careful consideration. It is well known that the tannin of tea is injurious to many persons of weak digestion, and yet it is so soluble that it is present in every infusion, however quickly prepared. The inventors of "Santha" treat a tea infusion with gelatine and a little sugar, and evaporate in a vacuum pan. The extract thus obtained is a powder which, when infused in water, gives a beverage resembling in many respects the produce of the ordinary teapot. Our examination of the powder gave interesting results. It dissolved easily, and gave a faintly opalescent solution with strong tea aroma, but with somewhat feeble flavour. Gelatine was present in slight excess, for tannin gave a precipitate, while a gelatine solution gave none. The tannin was neutralised and not removed, for ferric chloride gave a distinct reaction. Caffeine was present in abundance, and was separated and identified by well-known methods. The ash amounted to 8·62 per cent.; and the alkalinity, reckoned as KOH, was 2·05, both quantities being slightly in excess of those found in ordinary tea. It is evident that the inventors have to a great extent attained their object. They have produced a substance which, when infused with hot water, yields a fluid which may be described as tea. The aroma and the caffeine are preserved, and the tannin is neutralised and rendered innocuous; but, on the other hand, it must be admitted that a great part of the flavour of ordinary tea is absent in the infusion.

BREAD MADE WITH SEA WATER.

(J. THOMSON & CO., 128, HIGH-STREET, NOTTING-HILL.)

We cannot discover that the curious experiment of baking bread with sea water has yielded any important result. The bread submitted to us was good in appearance and taste. It contained 0·28 per cent. of chlorine, but that of course proves nothing. The sea water used was that supplied by the Great Eastern Railway Company, and is said to have been clear and brilliant. Sea water contains small quantities of many other compounds besides chloride of sodium, but we have at present no reason to believe that their introduction into bread would be an advantage.

New Inventions.

A NEW SENSITIVE FLAME.

MESSRS. FLETCHER & CO., of Warrington, to whom domestic economy and chemistry are largely indebted for gas appliances, have produced, apparently by accident, a sensitive flame of singular delicacy and simplicity. Fletcher's Argand Bunsens are extensively used; but it turns out that the smallest of the burners, with a special adjustment, can be made to give a flame extremely sensitive to sound. When the gas is turned down until the inner green ring disappears, the flame will respond to the tones of an ordinary conversation, and will be extinguished instantly by a louder sound, such as a whistle, a cough, or a clap of the hands. We have repeated and confirmed these interesting observations.

INVALID'S MEAT PRESS.

WE have received from Messrs. Nye and Co., 139, Oxford-street, a specimen of a novel and ingenious meat press, small but powerful, by means of which the whole of the juices may be expeditiously extracted from a small portion of meat for making beef-tea &c. It will also be found useful for other substances, and is unbreakable, being made of malleable iron, tinned. So far as we can judge, the machine does all that is claimed for it, and should supply a want especially in hospitals and sick-rooms.

ANÆSTHESIA BY NITROUS OXIDE AND OXYGEN.

To the Editors of THE LANCET.

SIRS,—In my "Manual of Nitrous Oxide Anæsthesia," published in August last year (p. 29), I ventured to express the hope that "a practical development" of the plan of inducing anæsthesia by means of a mixture of nitrous oxide and oxygen might be possible. It would appear that for some time prior to the publication of that little work Dr. Hewitt had been engaged in researches, the outcome of which we see in the preliminary notice which appears in your issue of April 27th, it will therefore be readily imagined that I have followed Dr. Hewitt's arguments with a very great deal of pleasure, and, I hope, with profit.

Leaving for other and abler heads than mine anything approaching the exhaustive criticism to which I feel sure that Dr. Hewitt would himself wish his work subjected, I shall content myself with seeking information upon the following points, which have not appeared to me to be quite clear—viz.: 1. In using the gasometer, was time allowed for equable diffusion, or were other means taken to mix the two gases employed? The specific gravity of the oxygen first admitted is 1·1056, and it naturally takes its place at the top of the reservoir; the nitrous oxide subsequently let in has a specific gravity of 1·527, and it would fall below the oxygen. We know, of course, by the first of the "laws of the mixture of gases," that "the mixture takes place rapidly and is homogeneous"; but, on the other hand, "a longer or shorter time" is necessary to complete the mixture, and, further, that the diffusion is not so rapid between gases whose densities approximate as between those whose densities are more divergent. 2. Was the bag B hyper-distended during administration; if not, how is the pressure of the gas conveyed to the face-piece? 3. In using either the gasometer or the bags, what arrangements were made for controlling the action of the expiratory valve?

Dr. Hewitt is to be congratulated upon his energy and perseverance, and I trust we shall soon be favoured with the other article he mentions, and that he may be successful in devising the portable apparatus he speaks of.

I am, Sirs, yours truly,

J. FREDK. W. SILK, M.D. Lond.,

Anæsthetist to the Great Northern Central Hospital and to the National Dental Hospital.

Chandos-street, Cavendish-square, W., May, 1889.

THE LANCET.

LONDON: SATURDAY, MAY 4, 1889.

No true friend of hospitals can regard without anxiety the present position and prospects of these institutions. Even the very schemes which are proposed for their advantage and support do not bring much relief to the mind, or satisfy us that we are not in some danger of exchanging the frying-pan for the fire, and, under cover of raising the independence of the working classes obliterating what little self-respect remains in them in relation to the medical profession. It is simply amazing to what a depth the feeling has reached in the working classes in London that they are to have medicine and medical art and science of the best without paying for it; that they are to take no thought for the morrow, even for such common troubles as measles, confinements, or ordinary complaints, and yet that on the moment of their occurrence they may expect some dispensary or hospital door to fly open to them, and all the benevolent machinery of the metropolis to be at their disposal. Scarlet fever and small-pox are, of course, most costly afflictions, and enormous provisions have to be made for them. But for the ordinary diseases of men, women, and children the notion is that benevolent or public provision is to be made. A working man or a small tradesman is expected to have his own baker and to pay for his own beer, but to have no family doctor to whom he can look in a moment of emergency or a time of sickness. The consequence is that our hospitals are threatened with financial ruin; our highly educated medical men, most willing to serve the poor on moderate terms, see their patients taken away by the hospitals; and the demoralisation of the people proceeds at an ever-quickening pace.

Of these three calamities, the first so far has made the most impression, and the impecuniosity of hospitals has reached such a pitch that public anxiety is excited. The Charity Organisation Society has taken advantage of this state of matters to raise the whole question of the medical attendance on the working classes in a "Memorandum on the Medical Charities of the Metropolis, with special reference to a proposal for an inquiry in regard to the administration and common organisation of Voluntary Hospitals and Dispensaries, and Poor-law Infirmaries and Dispensaries, by a Select Committee of the House of Lords." This document is one of much interest, though we think many of its statements are inaccurate and wanting in that precision which is so essential in a matter of such immense importance. We cannot profess to have checked the dates and data which abound in this document, and undoubtedly the chaotic account-keeping and absence of all attempt at uniformity in hospital finance in London make precision almost impossible. But there are some palpable errors and defects which should have been avoided. We are told, for example, that the Medical Council was constituted by Act of Parliament in 1862, and that the College of Surgeons of England in 1887-8 issued 239 diplomas of Membership—statements which are at least wide of the mark, and which raise a suspicion that in other more relevant and more complicated points the essential accuracy is not forthcoming. The document, further, is too much of a mixture of information and opinion, statement and comment, and would have been more effective if it had been less diffuse and bulky. But, with all its faults, and tinged strongly as it naturally is with the doctrines of the Charity Organisation Society and the belief that the panacea for all medical pauperism is in the indefinite development of provident dispensaries, it is a memorandum involving great trouble in its preparation, which gives a large amount of roughly accurate information, and makes out an irresistible claim for an inquiry. If we are to become helplessly socialistic in our hospital arrangements, and the British workman of the metropolis is no longer capable of making his own honourable and independent arrangements for ordinary attendance with the medical profession, then let us know the worst of it, and let us proceed with our eyes open. If hospital attendance is to supersede home attendance—if the poor in their days of calamity are to be driven out of the hospitals which were built benevolently for them, to make way for those who can pay, and to be made paupers in a Poor-law infirmary by a fracture or a pneumonia,—it is well that we should know. This is the direction of much present doctrine, and has been emphasised by the effect of the admission in recent epidemics of thousands of well-to-do people into the metropolitan sick asylums suffering from scarlet fever or small-pox. The case for inquiry is unanswerable. The scale of expenditure of money on Poor-law medical institutions is great. The conviction is irresistible that enough money for hospitals is or could easily be raised, if it were well expended, if unfit recipients could be excluded, and if our hospitals could be restricted to dealing with those cases and classes for which they were originally meant. Some of the notions which are at present in fashion will have to be very carefully sifted before the committee which is asked for, if an enormous increase of hospital embarrassment is not to ensue. To go no further than to a recent meeting in Holloway, presided over by the Lord Mayor, with the excellent purpose of increasing the working men's contributions to hospitals, it was unanimously resolved to suggest the opening of hospitals in the evening. A correspondent of the *Liverpool Echo* urges that if a penny a week is to be deducted from the wages of the working man for hospitals, he must have, as a *quid pro quo*, a doctor, and drugs, and certificates. The writer ought to see that working men are expected to help to maintain hospitals, not for all comers, but for those who urgently need them. We cannot imagine that the Lord Mayor would for a moment encourage the idea that the increase of working men's subscriptions to hospitals which he is most kindly encouraging is to constitute a claim on hospitals for common attendance. If so, he is preparing a heavy disappointment for working men, and a still heavier responsibility for hospitals, which will entirely alter their whole character. But the very existence of such notions is an argument for inquiry, and the sooner it is instituted the better. We should prefer a Royal Commission to a Committee of the House of Lords. It would be more representative of the public who support the hospitals, and we think it would carry more weight. But

no time should be lost in instituting some inquiry, and in trying to establish the growth of healthy views as to the respective duty of the individual and the public in making provision on the one hand for ordinary medical attendance, and on the other for exceptional calamities of sickness or accident—two perfectly distinct questions.

THE present Universities (Scotland) Bill for the better administration and endowment of the Universities of Scotland bears evidence that the Lord Advocate and his colleagues who act as sponsors for the measure have taken to heart some of the weightier criticisms passed on it during the several stages of discussion in the House of Lords last session. As the reorganised and better endowed Scotch University system might, under certain circumstances, be taken as the type on which a great Teaching University for London might be modelled, the discussion of the Bill and its passage through Parliament are matters involving wider interests than those bound up in the Scottish Universities themselves. For the present it will be well to deal solely with some of the new features of the Bill,[1] as most of the other points have been thoroughly threshed out in the various discussions that took place after the introduction of the Bill into the Upper House last year.

It will be remembered that the term "affiliation" was one on the meaning of which opinion was greatly divided, and it was ultimately found that even those charged with the drafting of the measure were by no means certain of the exact meaning and extent of the term. It is now defined as "such a connexion between an existing university and a college as shall be entered into by their mutual consent under conditions approved by the Commissioners, or, after the determination of their powers, by the Universities Committee." It may be pointed out that after the expiration of the powers of the Commissioners the University Court may, if they think fit, make ordinances to extend any of the universities by affiliating new colleges to them, subject to the above conditions. Although it is necessary that both the university court and the outside college shall agree to the affiliation, either of the contracting parties may bring about a dissolution of the bond of union, subject always to the approval of the Universities Committee. This clause of the Bill opens up very wide powers of extension of university teaching and examination, and may pave the way for an extension little dreamed of by the framers of the measure.

How radical are the changes contemplated may be gathered from the clauses dealing with the abolition of the voting by nations for the rectors in the Universities of Glasgow and Aberdeen, with the admission of women to graduation "in one or more faculties, and to provide for their instruction," with the foundation of new professorships, lectureships, or teaching fellowships, with the increase of teaching power of any university, whether by extra-mural teaching or otherwise. It is in connexion with this last matter that feeling will probably run highest. Fortunately this will not affect the medical school to any great extent, but in the faculties of Law and Arts there are already signs of a coming storm. Thanks to the liberal views held by the Town Council of Edinburgh, extra-mural teaching already occupies a recognised position in the Edinburgh medical school, as a student may spend two *anni medici* or take out four classes of the required fifteen in the extra-mural school. In the Science and Divinity faculties, as recently pointed out, the restrictions are even less limited; it is necessary, in the former case, to spend one year only in attendance on university classes, provided that recognised classes are attended during the remaining two years of the curriculum; whilst for the Divinity degree all the classes may be attended in the extra-mural theological halls. It is possible that further concessions may, with advantage to the student, be made to the extra-mural medical school; but it is certain that some modification in the Law and Arts faculties, whereby extra-mural teaching shall be recognised as qualifying *pro tanto* for the several degrees, must be made, and this quite apart from an opening up of the optional subjects for these degrees.

The part of the Bill that deals with the subject of assistants of professors might still be considerably amplified. The present position of university assistants is by no means an entirely enviable one. As a writer on the subject recently put it, they are "so busily occupied in relieving their superiors that they have no time even for private study," and, although there are exceptional instances in which this is not the case, the present semi-official position of assistants accounts only too surely for many of the inconveniences, and even evils, that the assistant has to put up with. The Commissioners are empowered to "regulate the salaries of principals, professors, and assistants of professors and other university officers; to provide for the appointment of assistants, and to determine by whom the right of appointing assistants shall be exercised." Such powers, fully utilised, would do away, to a certain extent, with the existing anomalous position occupied by assistants; but it is rumoured that the assistants themselves are strongly of the opinion that they should be directly represented on the newly constituted University Court. In the new Bill they are the only important university body that is not so represented, and in all the universities the balance of power would be more equitable were the assistants to have allotted to them one of the assessors at present allocated to the Senatus Academicus. It is to be hoped that the attention of the proper authorities may be directed to the importance of this question.

Taking it all in all, the Bill is a good one; there is a comprehensive and liberal attempt on the part of the framers of the measure to settle, for a time at least, the lines on which to carry out university reform. That considerable amendment and reform are likely to be brought about by the passing into law of the chief provisions of the Bill is almost universally conceded. All or most of the popular elements of reform are represented, and some most radical changes—especially in the mode of government and administration—are contemplated and stated. In the first place, there is the formation of a supreme governing body, in which are represented most of those interested in university work. In this popular representative body are to be vested those administrative and executive functions which at present occupy the time and energies of the professorial staff who constitute the Senatus Academicus in

[1] A general outline of the question will be found in THE LANCET of May 12th, 1888, p. 929.

each university. This will be a gain to the university in two ways. The professor will be enabled to devote much more of his time and attention to his students and to research, and the university authorities will be able to select representatives in the University Court specially for their business qualifications and for their administrative capacity. The students' representative council is to be constituted in such a manner as shall be fixed by the Commissioners under the Act, and the students are to be recognised as having a much more important share in the representation on the University Court than has hitherto been the case. There can, then, be no two opinions as to the value of the Bill. The one weakness, as in that of last year, is the list of Commissioners. The two names substituted for two deleted are good enough, one of them especially; but with all this, and though there are undoubtedly good men on the roll, the Commission as a whole is a weak one. It appears as though an attempt had been made to satisfy all classes of politicians rather than all classes of academicians. What association of ideas has prompted the appointment of two Commissioners in Lunacy as two of the three medical representatives, along with such a large proportion of lawyers, it is difficult to determine, though easy to suggest. The Scottish Local Government Bill is a good Bill, but it bears too evident traces of the lawyer's drafting, and it is to be feared that the report of the Commissioners under the Universities (Scotland) Bill will in like manner bear too strong an imprint of the legal mind. The Government has no doubt had considerable difficulty in getting together a Commission that would satisfy everybody, and that would at the same time do the work thoroughly and well, but those most interested in the welfare of the Scottish universities, feeling that the working out of the Bill depends so largely on the strength of the Commission, cannot but be impressed with the fact that there is a possibility that the purposes of those responsible for the measure may be frustrated by a too timid and too limited interpretation by the Commissioners of their powers under the Bill.

DR. BALLARD'S official report to the Local Government Board upon the causation of the annual mortality from diarrhœa, which is in this country principally observed in the summer season of the year, has at length been issued, but it is easy to see that it does not even now embody all the information which has been gathered on the subject, and this mainly for the reason that the inquiry has not, in so far as certain local observations are concerned, been completed, and because other material which has been received has not yet been sufficiently examined to warrant the drawing of inferences from it. Indeed, on the one point above all others as to which sanitary observers require precise and specific information—namely, on the results of the inquiry in so far as the causation of the disease is concerned—Dr. BALLARD makes a point of stating that his report is "provisional" only; and it is probable that the assurances which have been given in the House of Commons as to the early production of the report have in the main led to the issue of the document in its provisional form.

The inquiry had its origin in the demand for some explanation of the annually recurring high mortality from diarrhœa in Leicester, and in the failure of local inquiries, mainly limited to that borough, to elucidate its cause in any satisfactory manner. Indeed, it had become evident that Leicester diarrhœa could not be interpreted by itself; and it was necessary to include in the investigation not only places that ranked with Leicester as diarrhœal towns and cities, but other places which appeared at first sight only to differ from the former ones by the absence of any special summer mortality from diarrhœa; and in this way a very wide inquiry was brought about, and a vast collection of facts had to be made for the purposes of comparison. A number of these are embodied in the somewhat voluminous appendix and tables which are included in the report; but it is essentially with the opening portion of the document that we shall deal on this occasion, for it is in this that we find an able summary of the lessons thus far learnt, and of the material which will be helpful to sanitary experts and administrators in their endeavours still further to elucidate the subject.

It has long been known that a high atmospheric temperature conduces to a high diarrhœal mortality, and a low atmospheric temperature to a low diarrhœal mortality; but this influence, great as it is, is shown to be an indirect one, any direct action it may have exerting itself on infant mortality from all causes. But a far more important condition is the temperature of the earth; and, as the result of many experiments the details of which are embodied largely in charts, it has been found that the summer rise in diarrhœal mortality does not begin until the mean temperature recorded by a 4-ft. earth thermometer has attained somewhere about 56°F., no matter what may have been the temperature either of the atmosphere, or even of the earth, as recorded by a 1-ft. thermometer. The decline of diarrhœa is equally covered by the temperature of the earth at a depth of four feet; and hence it happens that, although atmospheric and surface temperature may have abated, diarrhœa is maintained so long as the much more slowly diminishing temperature of the earth at a depth of four feet is maintained. In short, any influence induced by increase of surface temperature sinks into insignificance when compared with that of the deeper stratum; and it is mainly in connexion with that temperature that rainfall exerts its influence, for protracted or heavy rainfall prevents the rise of earth temperature. Elevation above sea-level seems only to influence diarrhœal mortality in so far as it affects infant mortality from all causes; but the question of soil seems to be a much more important one. Thus it is found, on the one hand, that dwelling-houses having their foundations on solid rock, with little or no superincumbent loose material, have a diarrhœal mortality which is insignificant or almost unnoticeable, and this even in the presence of conditions otherwise unfavourable; whereas, on the other hand, a loose soil permeable by water or by air is the soil on which diarrhœa mortality is apt to be high, and, other things being equal, the extent of the evil seems to be largely dependent on the extent of this permeability—sand, for example, being the most diarrhœal soil, and clay being one which in itself is not favourable to diarrhœa. Then, again, the presence of organic matter in soils operates prejudicially, and this even when it is not of an excrementitious character. Even towns standing on rock the fissures of which hold

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organic matter tend to become diarrhœal towns. And, lastly, in so far as soil is concerned, excessive wetness and complete dryness of soil appear both to be unfavourable to diarrhœa. When there is habitual moisture which is not sufficient to preclude free admission of air, that condition is very favourable to diarrhœa, and it is well marked where the subsoil level is high enough to maintain by capillary attraction a dampness of surface soil. Occasional floods and leakages from sewers and drains operate in a similarly detrimental way.

As to density of population, there seems no question that dense aggregations, while favouring high general infant mortality, are especially favourable to death from diarrhœa amongst infants; and this is especially noticeable where density of buildings on area restrict the movement of air about dwellings—as, for example, where numerous small dwellings are shut in amongst tall and large buildings, and where long lines of dwellings are so arranged that they cannot be benefited by the prevailing winds. The same lack of free movement of air within dwellings also operates prejudicially. The absence of free domestic ventilation tends to raise mortality generally; it very greatly and obviously increases the mortality from diarrhœa, and the most pernicious form in which it is usually operative for mischief is in the cases of houses built "back-to-back." In a somewhat similar way, fustiness and general dirtiness of dwellings, together with the darkness which conduces to those conditions, and also the accumulation of filth about houses, especially where there is stagnation of air, operate to raise diarrhœa mortality. As to social position, it does affect the question; but Dr. BALLARD finds, from certain tables included by Dr. GRIMSHAW in his paper on "Class Mortality Statistics," that this condition influences the mortality from all other causes, even to a greater extent than it does diarrhœal mortality alone.

As to articles of consumption, it has not been found that the use of a polluted water operates to produce the special form of summer diarrhœa under consideration. With respect to food, Dr. BALLARD is inclined to think that any condition favouring diarrhœa depends not so much on the actual foods, proper or improper, as upon some extraneous substance in them which by itself is an efficient cause of the malady. As to breast-fed as opposed to bottle-fed infants, some valuable assistance was obtained in Liverpool by Dr. HOPE; and, as the result of it, Dr. BALLARD concludes that, apart from race and social status, children fed solely from the breast are remarkably exempt from fatal diarrhœa; that infants suffer from diarrhœa just in proportion as artificial feeding takes the place of breast milk; and that of all forms of artificial feeding "the bottle" is the most dangerous. Maternal neglect, which, like artificial feeding, is necessitated by certain trade occupations, illegitimacy, &c., are generally unfavourable to infant life, but they tend specially to diarrhœal mortality.

In a further notice we propose to consider the provisional hypothesis as to causation of summer diarrhœa which Dr. BALLARD adopts as the outcome of the evidence we have referred to, and also the practical suggestions which are submitted for the guidance of sanitary authorities.

Annotations.

"Ne quid nimis."

THE PHONOGRAPH AND MEDICINE.

A VISIT to the exhibition of Mr. Edison's marvellous phonographs in Bond-street shows very clearly that all musical notes can be reproduced by them with sufficient power for a fairly large audience to hear them simultaneously. All inflexions of the voice, from the loudest shout to a stage whisper, can also be reproduced, and with the most striking fidelity in pitch, sequence, and time. Any slurring of a word, or any impediment in its utterance, comes back exactly as it was first pronounced. It is very obvious that the exact vocalisation of a general paralytic, or anyone affected with any marked partial paralysis of the organs of speech, could be reproduced to a class, and so far this valuable invention might be utilised in medical teaching, for a faithful reproduction is in every way more suited for purposes of instruction than the most successful imitation. But this seems to be the limit of its use in medicine at present. The ticking of a watch failed to make any mark on the wax tablet, and cannot therefore yet be reproduced; so that there is no possibility at present of storing up for all time a record of either normal or abnormal cardiac or pulmonary sounds. If this were possible, what a new era would be opened out in medical practice and science. Disputed points in rhythm would no longer be open to discussion, and explanations of many of the debatable sounds and bruits would be easily arrived at. Moreover, the exact condition of a heart or a lung at any given time could then be indelibly recorded by the organ itself, and stored up for reference at any future period, so that improvement or otherwise would pass from surmise to certainty. The phonogram might be used to instruct a class or be sent to any other practitioner. Mr. Edison has, we believe, in London more recent phonographs than those now on exhibition, but these are not yet patented in England, and therefore not shown. But even these will probably not be sufficiently delicate to reproduce the sounds which it is the daily province of the physician to study and interpret. Is such a desideratum unattainable?

OVERWORK ON RAILWAYS.

THE practice of working overtime constitutes, we may almost say, a standing rule with railway companies. In spite of complaints, remonstrances and accidents, some of which, at least, are fairly attributable to this cause, overwork is the order of the day, confirmed by custom and protected by the power of the dividend. The inquiry lately instituted in Parliament respecting the death of a platelayer on the Brighton and South Coast Railway, with the correspondence arising out of it, affords a fair illustration of the arguments adduced both for and against the system, while it is equally suggestive of the ease with which a question of this kind may be shelved and forgotten. The deceased had been employed in signalling for twenty-one hours out of twenty-four. After an interval of six hours he was again on duty, and was killed by a passing train two hours later. Excessive work was in this case admitted by the general manager in a letter to the Board of Trade. It was pleaded in defence that the circumstances were of exceptional necessity, that a limited number of trained men were alone qualified for the work in question, that they were supplied with all needful comforts, and that the only alternative to such occasional over-pressure of *employés* in times of emergency was a temporary suspension of traffic. The obvious objection to this line of argument was that put forward on behalf of the Board—namely, that, in a city

liable to annual visitations of fog, experience might have taught the greater necessity for a sufficiently numerous and qualified signalling staff. In the meantime the matter has merely been officially registered, so to speak, by this remonstrance on the part of the Board of Trade, and a general promise on that of the company to try what can be done to meet the views of the Board in future. Whether the accident above mentioned was more properly due to the weariness and inattention of the unfortunate workman or to the mere density of the fog may be open to question. It is clear that we have reason to believe in the former as well as the latter cause. Certainly the habit of over-pressure which is characteristic of almost every branch of the railway service will not incline the public mind to undue sympathy with the difficulties and efforts of companies. Though the responsibility for accident were altogether set aside—and this cannot be,—it is evident that mere good work, without mention of health, requires at least enough of good working material—that is, of capable workmen. We trust, therefore, that the censure of the Board of Trade will not prove to be the grave of its objections; but that it is prophetic of such further judicious interference as will give to its injunctions a fuller meaning than that of mere disapprobation.

EXCISION OF A TUBERCULAR TUMOUR FROM THE BRAIN.

IN the *Boston Medical and Surgical Journal* (April 4th) Dr. Knapp and Dr. Bradford record a case of tumour of the brain removed by operation. The patient was thirty-two years of age, and his symptoms commenced in the summer of 1886 with nausea, vomiting, and headache. In March, 1887, he had a convulsion followed by paresis of the left arm and leg, with exaggerated reflexes and slight contracture of the left arm. His sight then began to fail, and the convulsions recurred at intervals of about three months. In March, 1888, he consulted Dr. Putnam, and in the following June he took to his bed, suffering from severe pain in the back of the head, failing vision, numbness in the left arm, and weakness of the leg. Dr. Knapp saw him in November, and found double optic neuritis, impaired sensibility of the left side of the face, drawing up of the right angle of the mouth, slightly more marked when laughing or talking, and diminished tactile sensibility over the left side, most marked in the forearm. With the eyes shut he was uncertain as to the position of either the left arm or left leg. The arm was in the position of post-hemiplegic contracture and rigid. The arm could be abducted and slightly rotated at the shoulder voluntarily, and flexed a little at the elbow, but the wrist and fingers could not be moved. The left leg could be moved in every direction, but it was rather stiff, and noticeably weak. The superficial reflexes were mostly absent on the left side, but the deep reflexes were exaggerated. A cerebral tumour was diagnosed, its locality being surmised to be in the right hemispheres, involving chiefly the centres for the wrist and hand; and Dr. Knapp decided that an attempt at removal afforded the only chance for life, although with the advanced optic neuritis and secondary degeneration perfect recovery was impossible. The patient and his friends deciding to take the risk of the operation, he was admitted under Dr. Bradford into the City Hospital, where several more observations were taken, and on Dec. 28th Dr. Bradford trephined over the upper part of the fissure of Rolando. The tumour was found about half an inch beneath the surface of the cortex, and was removed from its bed without hæmorrhage. The pulse-rate at the beginning of the operation was 58, but at the time of the removal of the tumour it had risen to 156; the breathing also became more rapid and shallow; and the patient died three-quarters of an hour after the operation. The tumour weighed 35½ grammes, and measured 7 by 4 and 3 centimetres. It was of tubercular nature. No post-mortem examination could be obtained.

SUFFOCATION OF INFANTS.

ALL who have had any dealings with coroners' juries know how prone they are to look leniently upon infantile cases in which there is, to say the least, a strong suspicion of contributory negligence. In cases of wasting where there is little doubt that the infant has been insufficiently or improperly fed, the task of proving that there has been any criminal intent is extremely difficult. When, however, the infant, previously in apparently good health, has been found dead in bed, the question of accident or manslaughter is still more difficult, and the parents ordinarily receive the benefit of the doubt. Although in such cases the verdict is usually "Accidentally overlain," frequently the Scotch verdict of "Not proven" would seem to be more appropriate. In our last issue we referred to a case in which the jury returned a verdict of manslaughter against the parents, who had gone to bed in a state of intoxication the night before the child was found dead. The frequency of such cases in Liverpool had called from Mr. Justice Charles the ruling that gross neglect on the part of parents to children, resulting in death, would amount to manslaughter, and this ruling was put before the jury by the coroner. During last week on a single day no less than three cases of deaths of infants from suffocation formed the subject of inquests in Southwark, and the usual verdict was given in each. In one, it appeared that the father, mother, and three children occupied the same bed, but otherwise the published details of all three refer merely to the fact of the death and the post-mortem appearances of suffocation. Perhaps a few verdicts similar to that given at Liverpool may tend to diminish the frequency of these "Accidental deaths."

LEGISLATION FOR THE PREVENTION OF MILK INFECTION.

THE proposal which Mr. Shirley Murphy made at the Hastings Congress, that local sanitary authorities should be empowered to make regulations for the prevention of milk contamination due to eruptive diseases of the cow, will commend itself to those who only regard these affections as polluting the milk with pus and other morbid products, as well as to those who consider that they possess still larger powers of inflicting injury on the health of milk drinkers. We have no hesitation in saying that milk thus contaminated ought not to be sold as food for man, and local authorities might well be empowered to take steps to prevent the occurrence or extension of diseases of this nature. The enforcement of regulations for securing the quarantining of cows newly arrived on a farm, the isolation of any cow thus affected, and the washing of the milker's hands between the milking of successive cows, have already been proved in different parts of the country to afford a material security against the occurrence of these maladies, and might with advantage be generally adopted. The fact that many cowkeepers enforce them in their own interest is a sufficient answer to the objection that they would interfere with business arrangements. So, again, the public have a right to be protected against possible injury through the sale of any cow suffering from eruptive disease, and especially if this animal be one of a herd whose milk is under suspicion of having caused infectious disease among its drinkers. At the present time there is no control exercised over these infectious maladies except that which is dictated by the experience of careful and conscientious cowkeepers. To demand that all should take the precautions

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recognised to be necessary by the few would inflict no hardship, but would even promote the cowkeepers' interests; for the loss of milk which occurs owing to the reduction in the quantity of supply when a cow suffers from eruptive disease is itself sufficiently important to make it desirable that every care should be taken to maintain the stock in good health.

ETHYL BROMIDE.

ETHYL BROMIDE, to which we made reference last week in reference to its properties as a general anæsthetic, must not be accepted as a new addition to anæsthetics. It was experimented upon by the late Mr. T. Nunneley of Leeds in 1849, and was employed by him on the human subject several times for different operations, and with complete success. In 1850, M. Robin followed Mr. Nunneley in the use of it; and twenty years later (in 1870) Dr. B. W. Richardson made a further research with it, and administered it many times in tooth extraction and other minor operations. In his Synopsis of Anæsthetics (*Asclepiad*, 1885, pp. 264-5) the last-named investigator says of ethyl bromide that Mr. Nunneley considered it to be one of the best of anæsthetics, in which view he concurred. The fluid is described as yielding an ethereal vapour slightly pungent and rather irritating to inhale, the quantity required for complete anæsthesia being from one to six fluid drachms. The action is rapid and effective, with scarcely any second or spasmodic stage, and recovery from deep narcotism induced by it is usually complete in from four to five minutes without any bad effects. During deep narcotism the animal temperature falls 2° F. No accident has occurred from the administration of ethyl bromide, and when death has been induced by it, experimentally, in the lower animals, the respiration and the circulation have failed together. The objections to the use of ethyl bromide are its cost, which is considerable, its rapid loss by evaporation, for it boils at 106° F., and its instability as a chemical compound. These objections, recognised by the first investigators of it, have prevented ethyl bromide becoming the rival of the better known and more stable anæsthetic fluids.

THE VOLTA COMMEMORATION.

LAZZATE, a village on the confines of the provinces of Milan and Como, is memorable for at least one thing—for containing the cottage where Alessandro Volta for many years spent the summer and autumn months in prosecuting those studies which culminated in the invention of the pile. In that modest tenement may still be seen the laboratory, the kitchen, the fireplace, with the seat beside it where he would beguile his hours of recreation in unfolding to the more intelligent of his neighbours the experiments he was engaged upon, and the results he hoped to bring out of them. Survivors in Lazzate, who can recall the incidents of "sixty years since," remember the philosopher's going by the name of the "mago benefico" (the beneficent magician), an epithet appropriate not only for his brilliant discoveries in physics, but for the impulse he gave to the culture of the potato, which he was the first to introduce into Lombardy. The local syndic, the Cavaliere Ambrogio Maggi, and the parish priest, the Rev. Don Elia Bonanomi, interpreting the wishes of the community, have secured the cottage as public property, to be preserved in honour of its great tenant, and on April 22nd inserted a tablet in its façade to commemorate the scientific work of which it was the scene. The whole countryside was *in festa* for the occasion, and not a house, however humble, failed to adorn itself with flowers or drapery in homage to the physicist who had brought substantial benefits as well as fame to the locality. A distinguished company supported the Cavaliere Maggi as he addressed a vast audience on the significance of the ceremony, and concluded one of those graceful little discourses in which the modern Italian perpetuates the traditions of his classic forefathers. The tablet on being unveiled presented the following inscription:—

ALESSANDRO VOLTA
in questa modesta e diletta sua casa
tentò e compì il miracolo della Pila
rinnovatrice di scienze e industrie
onde i terrieri stupiti e grati insieme
del tubero americano da lui qui recato pel primo
Mago benefico lo appellarono.

Municipio e popolo riconoscenti e orgogliosi
posero questa lapide
il dì 22 aprile 1889.

(Alessandro Volta in this his modest and beloved house tested and completed the marvel of the Pile, the renovatress of science and industry, whence the country folk in their astonishment, and also in their gratitude for the American tuber he was the first to bring to these parts, called him the beneficent magician. The municipality and people, in recognition and in pride, erected this stone on the 22nd April, 1889.) Then followed the speech of the occasion — a scientific estimate of Volta's place in the annals of discovery and invention, particularly in the spheres of meteorology and electro-therapeutics, by Professor Tito Vignoli, in the course of which he gave some charming illustrations of the simplicity and kindliness of the philosopher's character—traits which he never lost even after a profusion of distinctions and honours before which less masculine and pure natures have been known to succumb. After Vignoli's oration, which it is understood will be published, the company were entertained by the Cavaliere Maggi at a banquet, where once more the amiable features of Volta were illustrated by anecdotes of the benevolent deeds in which he seemed to find congenial relaxation from the alternate disappointments and triumphs of the experimental laboratory.

FISH-SUPPLY.

THE value for the purposes of food of the fish taken upon our coasts has scarcely, we think, been fully recognised; and certainly the possibility of improving the supply, and the public benefit which would result from a successful effort in that direction, are matters which stand greatly in need of consideration. The very imperfect system upon which, as matters stand at present, fish are captured and brought to market stands sadly in need of reform. No doubt there are great difficulties besetting the industry. The fish must be taken when the opportunity offers, and very generally it will happen that the number taken will then be greatly in excess of immediate requirements. This capricious fluctuation of the supply, and the very perishable nature of the article itself, make the work of distribution very difficult. But it is only too certain that the purveyors are very far indeed from making the best of the circumstances in which they find themselves. For instance, the kind of treatment which Mr. Hamilton, in a letter which he submits to us, describes in the case of "live cod-fish" is not less wasteful than inhuman, and affords a strong argument in favour of that technical instruction for fish catchers and fish curers which he advocates. But, difficult as is the task of educating the "trade" into a just appreciation of the advantages of what is undoubtedly the best course in a mercantile as well as a hygienic sense, the task of bringing the English housewife to a sense of the economic value of fish refuse strikes us as being more formidable still. There is clearly substance in what our correspondent says upon this head, but we are not at all sanguine that the requisite impression can be made upon the domestic authorities, or that, if made, the means could be at present found for giving effect to the household economies of which he speaks. But, on the other hand,

much might be done to prevent the destruction of immature fish, which are useless for the purposes of food, and to protect against extinction those breeds which are most eagerly sought by fishermen. Indeed, in the direction of fish culture there are untried and uncalculated possibilities of public and private advantage, which deserve to engage the most careful attention of statesmen and men of business. The subject is one that has been strangely neglected in the past, and is for that very reason the more full of promise for the future.

IS PAGET'S DISEASE OF THE NIPPLE A PARASITIC AFFECTION?

M. J. DARIER, who has discovered that a hitherto undescribed form of acne is due to the presence in the follicles of parasites, psorospermia or coccidia, communicated to the Société de Biologie on the 13th ult. (*Progr. Méd.*, No. 16) a note on Paget's disease of the nipple, which he ascribes to a like parasitic agency. He recalled the fact that in 1874 Paget had drawn attention to a chronic, apparently eczematous affection of the skin of the nipple and areola as being frequently followed by the development of cancer of the breast, and referred to the works of Butlin, Thin, Duhring, and others upon the subject. Some, he said, considered the change to be an eczema propagated along the galactopherous ducts; others regarded it as quite *sui generis*. M. Darier finds that, if epidermic scales from the diseased surface be teased out in water or in iodised solution, either directly or after maceration in dilute ammonia or ammonium bichromate, there will be seen in the midst of the epithelial cells, and often within their interior, rounded bodies invested with a refractile membrane. These bodies are as large as, or even larger than, the cells, and their membrane contains either a single mass of protoplasm or corpuscular granules. They are constantly found in sections of the diseased skin at all levels of the epithelial covering, and also in the glandular prolongations of the epidermis. M. Darier affirms that they are of the nature of psorospermia or coccidia, and declares that they are to be seen in the offshoots of epithelioma of the nipple, that they were figured by Butlin in 1876, and then regarded as evidence of endogenesis. The conclusion is that not only Paget's disease, but the duct cancer or epithelioma that is its sequel, may be due to the presence of this parasite, the detection of which, according to M. Darier, is a very simple matter.

SMALL-POX IN ITALY.

A FLORENTINE CORRESPONDENT, under date April 26th, writes:—At this season there is usually a considerable migration of foreign residents and tourists to Siena, attracted by the pure, invigorating air, as well as by the art-treasures of the famous old republican town. It should therefore be known that small-pox and scarlet fever, particularly the former, have broken out afresh there, so as to render the place by no means safe even for a short visit. Small-pox, indeed, against which there is no uniform, systematic, State-controlled prophylaxis in Italy, is never wholly absent from her cities and towns, and bursts forth from time to time, as in the year before last in Florence, last year in Milan, and this year at Siena, whenever the conditions of the locality or season invite it. Another favouring cause of these outbreaks is the adulteration of the lymph supplied to those communities which can be prevailed upon to submit themselves to vaccination. To meet this disgraceful breach of public faith, the Ministry of the Interior has just issued a circular in which is noted the fact that for the small-pox epidemics from which Italy periodically suffers it has had to found a vaccine institute, from which the suffering localities may procure the lymph unadulterated and in sufficient quantity. The institute, according to the circular, has worked very well, and the prefects of the communes throughout the peninsula are therefore "invited"—such is the official word—to apprise the local sanitary officers that the vaccine matter will be obtainable, through the prefectures, whenever the central authority knows that it is wanted. The circular adds, that the Ministry of the Interior aims at minimising for the Italian provinces the burden of the "servizio vaccinico,' and also relieving them from the possible abuses of private speculation in the supply of lymph. Such speculation, however, is still allowed in "linfa vaccinica umanizzata" (vaccine matter from the human subject), "if prepared and preserved in the manner prescribed by the regulations hitherto in force. But it was precisely in lymph of this kind that adulteration with glycerine was found quite lately, in Sicily particularly, to have been extensively practised; and it is to be feared that the nefarious traffic will continue so long as the whole treatment of small-pox in Italy is not placed on a similar footing to that which has so long prevailed in other civilised European States.

SUBACUTE PROGRESSIVE POLYMYOSITIS.

THE muscular tissues may conceivably become affected as the result of inherent acquired or congenital defects—e.g., Gowers' and Buss's view of the pathology of pseudo-hypertrophic palsy. The muscles may become diseased in obedience to the action of the motor nerve cells and nerve fibres of the spinal cord. These propositions have come to be axioms. Jacoby of New York draws attention to a subacute progressive polymyositis[1] invading successively nearly all the muscles of the body, ending fatally, and showing microscopically not only the characteristics of acute and subacute inflammation, but also many of those found in the chronic forms of primary dystrophies. That trichinosis may simulate the disease in question is admitted, and multiple neuritis must also receive consideration when forming a diagnosis. In two cases reported by Kussmaul and Maier the resemblance to trichinosis was very noteworthy. Maier described a nodose form of periarteritis occurring in Bright's disease and associated with rapidly progressive muscular paralysis. Hepp even goes so far as to employ the name "pseudo-trichinosis" to the complaint. However, trichinæ cannot be found in the muscles, and the very long duration of the disease is a slight argument also against the trichinotic view. The freedom from spontaneous pains and the absence of tenderness in the accessible nerve trunks; the defect of sensory disturbances and want of true paralysis, the pain alone being the agent in preventing proper movement; and the absence of the reaction of degeneration, are given as arguments against the neurotic view of the affection. This view is also combated by the fact that there are great swelling and tenderness of the muscles. Still, microscopically, evidence of neuritis of the intra-muscular nerve endings was obtained, but it is regarded as due to mere spread of inflammation—ascending neuritis. Eisenlohr has recorded cases of combined neuritis and myositis, but in this and Senator's cases sensory disorders figured largely as early symptoms, and this pointed the way to a diagnosis of neuritis. The possible relationship between polymyositis and progressive muscular atrophy needs consideration, but the acute mode of origin militates against such a relationship, though exceptions to the ordinary mode of onset have been recorded by Friedreich, and "rheumatic" forms of it are allowed to exist in which a rapid onset may obtain. In cases of rapid course death has been due to involvement of the respiratory muscles.

[1] The Journal of Nervous and Mental Diseases, April, 1889.

ACOUSTIC RESEARCHES ON NASAL VOWELS.

DR. LŒWENBERG, of Paris, has published the results of some researches that he has made upon the nasal vowels of the French and other languages. He made use of the tonometer of Kœnig; he also employed another method, consisting in pronouncing the vowels, and then, without altering the position of the vocal organs, bringing near to the mouth a number of tuning forks in a state of vibration until he discovered the one whose sound was increased by the presence of the air contained in the buccal cavities. The French nasal vowels *on*, *an*, *es* were found to have for their corresponding notes the minor thirds below the notes corresponding to the simple vowels *o*, *a*, *e*. The non-French nasal groups *ong*, *ang*, *eng* are a semitone less than the octave below. This rule does not apparently hold good for diphthongs such as *eu*, *eun*, *eung*. As Dr. Lœwenberg is interested in nasal sounds, we would venture to suggest to him to obtain the services of some native Panjábi, and ask him to pronounce for his benefit the numerous and astonishing *ns* in that language.

THE WESTERN DISTRICT HOSPITAL.

THE proposed enlargement of the Western District Hospital at Fulham is already exciting some opposition on the part of the Fulham vestry, and the matter has been referred to the Sanitary Committee. It is believed that part of certain alterations and additions that are proposed will be effected with a view to the reception again, by the Metropolitan Asylums Board, of a limited number of small-pox patients in this hospital.

THE ANATOMY OF THE PROSTATE GLAND.

THE April number of the *Journal of Anatomy and Physiology* contains an interesting and valuable paper by Mr. J. Griffiths, assistant to the Professor of Surgery in the University of Cambridge, in which, after discussing the views of Sir Henry Thompson and others, and giving an account of the development and minute anatomy of the organ, he arrives at the following conclusions:—

"1. The *third or median* lobe exists, in many instances, as a well-defined portion of the gland at the time of puberty and during adult life,—i.e., the period before enlargement of the prostate occurs, but in other instances it is very small or entirely absent. 2. This part or lobe possesses ducts of its own, which open upon the parts of the hinder wall of the prostatic urethra, which extends from the vesical orifice to the *verumontanum*. 3. This part or lobe also develops separately from the part of the urethra just mentioned, in the same way as the lateral lobes do from the part of the urethra on each side of the *verumontanum*, and it is not the result of an extension backwards of gland tissue from the lateral lobes into the interval between the vasa deferentia beneath the neck of the bladder. 4. The whole gland is peculiar in this particular, that the 'ducts' are short, and form mere channels in the stroma, being destitute of any special coats except a layer of epithelium lining them, and that the muscle tissue of the prostate is so arranged around the terminations of the 'gland tubules' which form the secreting parts, that the muscle, when it contracts, is able to act as an efficient expulsor along the whole course of the tubules. 5. This arrangement of the muscle in the prostate is developed in relation to the function of the gland; and thus it is that the secretion accumulated in the tubules can be completely expelled into the urethra at once, or at least in a short time. 6. The muscle element of the prostate is derived from the outer, circular, non-striped muscle coat of the prostatic urethra, this coat being continuous with the circular coat of the bladder; therefore the muscle element of the prostate is only indirectly continuous with that of the circular coat of the bladder. 7. The *utriculus masculinus* is not, properly speaking, embedded in the prostate. It forms a distinct structure separate from the prostate; and as the growth of the prostate greatly exceeds that of the *utriculus masculinus*, the latter is in time covered in, and appears as if embedded in the former."

FREE LIBRARIES AND CONTAGION.

IT implies no real disparagement of the great advantages connected with public libraries that books issued by them are occasionally to be found in houses where infectious disease is prevalent. The possibility of risk thus incurred is inevitable unless the system of book-lending throughout the country is to be done away with. A few days ago it was announced in the daily press that four books from a free library had been discovered in a house where one child had fever; and the case, as we know from recent experience, is not singular. Instances of the same kind must have occurred since the earliest period at which books were placed in circulation. Some persons, perhaps, under the guidance of a timid over-zeal for health, might condemn the free library itself as a virtual source of contamination. In our opinion this would be to caricature precaution. With almost equal reason might we forbid to infected households all necessary intercourse with tradesmen who supply their daily wants. The real remedy is not to be found in any superfine theorising, but in more practical measures. These must include the compulsory notification to librarians of infectious disease among the families of their readers, the thorough disinfection or destruction of books already exposed to the taint of disease, and the temporary restriction of any further issue to the homes of infected persons.

NITROUS OXIDE GAS AND CHLOROFORM IN DENTAL OPERATIONS.

AT a recent meeting of the Odonto-Chirurgical Society of Scotland, reported in the *British Journal of Dental Science*, Mr. Biggs of Glasgow stated that he had carried out a series of experiments in connexion with the combination of gas and chloroform with very satisfactory results, using from twelve to twenty-four drops of chloroform on cotton-wool placed on the tube of the gas inhaler, behind the valve, and then turning on the gas and administering it in the usual way. He found the jerky movements of the head to be considerably diminished, and the time at the disposal of the operator greatly augmented. He got the idea from Mr. Somerville Woodiwis of West Hartlepool, about two years ago. As compared with the method of adding a small proportion of ether—for instance, with Clover's apparatus,—it has perhaps the advantage of simplicity, as no special apparatus is required; on the other hand, the chloroform is at its greatest concentration at the commencement of the inhalation, before the heart has been stimulated and steadied by the nitrous oxide gas; and on the score of safety ether is much to be preferred, as it is well known that the danger of chloroform does not depend upon the quantity used.

RETENTION OF PLACENTA.

DR. TRUFFET mentions in *La Province Médicale* a troublesome case of retained placenta, to which he was called four hours after the birth of a child by a midwife who had been in attendance. The woman was thirty-five years of age and a multipara; the child had been stillborn, and there were distinct marks of two turns of the cord round its neck. The midwife in her attempts to remove the placenta had pulled away the cord, of which no signs could be discovered. After antiseptic precautions Dr. Truffet introduced his hand into the vagina, but found the os completely closed, so that it would not even admit his little finger. All attempts at dilatation having failed, he ordered an injection of hot water containing corrosive sublimate every three hours; these were continued for two days, without producing any effect. On the third evening the temperature was 40°C. The next day the condition of the patient became serious, the temperature rising to 41°, and

some rigors having occurred. The os had scarcely dilated at all, and a consultation was arranged for the next day. All at once, however, the after-birth was expelled, and the patient ultimately made a good recovery.

STORAGE OF RAIN WATER.

THE value of rain water as a source of supply for washing purposes has long been recognised. Its natural purity, its comparative freedom from the hardening lime salts, and the convenient ease with which it can be collected and stored, combine to render it desirable not only for this, but in some degree for drinking purposes also. At the same time it must not be forgotten that these very advantages are themselves qualified by the possible drawbacks which they entail. Thus the maintenance of a rain-water service even in temperate countries is necessarily uncertain. Storage is wholesome only under suitable conditions. One of these is the discontinuance of lead and even of zinc in the structure of the pipes and cisterns used. Another difficulty is the risk of contamination by organic impurity derived either from the atmosphere or from surfaces traversed by rain water in its descent. A special storing apparatus other than the antiquated and unwholesome butt—such, for example, as a reservoir of glazed earthenware—is therefore needful; and a suitable filter would also in any case be advisable. Given these requisites, a second supply of atmospheric origin would form a useful means of supplementing the daily contribution of household water derived from springs and rivers.

THE CONGRESS OF GERMAN SURGEONS.

THE communications on Myxœdema and the Diagnosis of Cerebral Lesions made to the Congress by Mr. Victor Horsley have been amongst its principal features. Two or three entirely new points were brought out in the latter paper, and excited much interest, especially as his papers were delivered in the German language. He was honoured by an audience of the Dowager Empress Augusta, and, with the most distinguished members of the Congress, dined at Herr von Gossler's, the Minister of Public Instruction, and also with Professor von Bergmann. It is satisfactory to the profession in England that one of its younger members should have been able to give in Berlin such striking demonstrations of points of recent pathological progress closely associated with English work; it will go far to strengthen the feelings of mutual respect which have existed between English and German practitioners.

THE ETIOLOGY AND PATHOLOGY OF LEPROSY.

AT the next meeting of the Epidemiological Society, to be held at 8 P.M. on Wednesday, the 8th inst., at the rooms of the Medical Society of London, Chandos-street, Cavendish-square, Dr. Phineas S. Abraham will read a paper on the above subject. Microscopic sections illustrating the pathology of the disease will be on view; and before the meeting patients affording typical examples of the two varieties of leprosy will be exhibited. The meeting will be open to members of the medical profession.

DANGERS OF CHLOROFORM IN LAPAROTOMY.

PROFESSOR ZWEIFEL, of Berlin, has remarked several times that pneumonia has occurred after laparotomy has been performed under chloroform, either at night or on dark days when gas has had to be used. In some cases which were done in a small, badly ventilated room, where a good many bystanders were present and two or three Argand gas burners were in use, a peculiar cloud of partly decomposed chloroform vapour was very noticeable, not only to the eye, but by the effects produced on the respiratory organs of the operator and his assistants. When ether was used instead of chloroform these effects were not observed. Pending the establishment of the electric light, Professor Zweifel commences with a mixture of alcohol, chloroform, and ether alone, the patient being put under the influence of this in another room, ether being subsequently used during the operation.

REFORM AT THE ROYAL COLLEGE OF SURGEONS.

A CORRESPONDENT writes that a meeting of the Midland Medical Society was held in Birmingham on the 1st inst. to discuss the merits of the Bill "to amend the constitution of the Royal College of Surgeons of England and to declare and extend the rights of Members thereof." Mr. Lawson Tait moved a resolution approving the Bill. The motion was carried by 37 votes, against 6 dissentients.

THE CROONIAN LECTURES.

THESE lectures will be delivered by Dr. Lauder Brunton at the Royal College of Physicians on the following Thursdays at 5 P.M.: June 6th, 13th, 20th, 27th, and July 4th. The subject will be "The Connexion between Chemical Constitution and Physiological Action."

FOREIGN UNIVERSITY INTELLIGENCE.

Buda-Pesth.—Dr. Schaechter has qualified as *privat-docent* in Surgery, and Dr. Schwarz as *privat-docent* in Neuro-pathology.

Havana.—No less than four professorships are vacant, and are to be filled by open competition—viz., Medical Pathology, Clinical Midwifery, Clinical Diseases of Children, and Public Hygiene.

Nancy.—Dr. S. Pozzi has been appointed Professor of Clinical Surgery, and Dr. Demange Professor of Medical Jurisprudence.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following eminent foreign medical men are announced:—Don T. Martinez y Muñoz, Sub-inspector of Military Sanitation.—Don J. Piñero Perez, of Madrigal de las Torres, who was decorated for his services in two cholera epidemics.

THE Accademia Medica di Roma, at its ordinary meeting on April 28th, devoted the chief part of the sitting to an *éloge* on the late Franz Cornelius Donders, one of its honorary Fellows. Professor Colasanti was its spokesman on the occasion, and his eloquent characterisation of the Dutch biologist and ophthalmic surgeon was heartily endorsed in terms not less eloquent by the President, Dr. Guido Baccelli.

THE Lord Chancellor has appointed Thomas Clifford Allbutt, Esq., Doctor of Medicine, to be a Commissioner in Lunacy, in the room of William Rhys Williams, Esq., Doctor of Medicine, resigned. Whilst congratulating Dr. Clifford Allbutt on his appointment, we cannot but regret the loss sustained by the profession in the removal from its consulting ranks of so capable a physician.

THE annual conversazione of the Medical Society of London will be held at 8.30 on Monday next, May 6th, at the Society's rooms, 11, Chandos-street, Cavendish-square, when the Annual Oration will be delivered by Mr. Jonathan Hutchinson, F.R.S. The subject of the oration will be on the Clinical Uses of Rare Diseases.

THE official report to the Home Secretary has appeared giving the result of the inquiry held by Mr. D. Cubitt Nichols and Mr. Shirley F. Murphy as to the immediate sanitary requirements of the parish of St. Mary, Rotherhithe. We shall have to refer to this report more at length in our next impression.

A HOSPITAL for patients suffering from small-pox has been established at Assouan, in consequence of the great prevalence of the disease amongst the Bishareen and the desert tribes.

OFFICIAL REPORT ON SHEFFIELD SMALL-POX.

[SECOND NOTICE.]

IN resuming our consideration of Dr. Barry's report on the epidemic of small-pox at Sheffield, and of Dr. Buchanan's covering paper to the report, we find that the assertion so commonly made—to the effect that it is to improved sanitation that the diminution in small-pox mortality in this country is due—is practically disposed of by the Sheffield experience. One sanitary circumstance alone—namely, the greater or less degree of spaciousness or of crowding of houses upon area, and of people within their homes—seems to have influenced susceptibility to small-pox infection. And this experience receives confirmation from a comparison of the fall in the mortality from small-pox with that from other diseases; the comparison showing that, as regards two periods of ten years each, the fall from small-pox at all ages has been infinitely greater than that from measles, scarlatina, whooping-cough, and diarrhœa. Fever and diphtheria have exhibited a larger fall, but in neither disease was the fall such as has taken place in small-pox. And the case of small-pox is made the more striking when the question of age is considered. At all ages the fall as regards small-pox mortality had been 72 per cent., but on further examination it is found that this is made up by a reduction of no less than 90 per cent. below the earlier death-rate in the case of children under ten years of age, along with an actual increase of 34 per cent. beyond the small earlier death-rate among elder people. In short, the enormous diminution in small-pox mortality has taken place at the very age when the natural and uncontrolled disease used to be the most fatal. No other infectious disease has behaved like this, and hence Dr. Buchanan, finding no explanation of the occurrence in ordinary sanitary administration, and using a pet term of the anti-vaccinationists, suggests whether some sort of "rite" has not been practised upon the children of Sheffield, which has come more abundantly into operation since 1870, or thereabouts, and which has availed to prevent children from dying of small-pox. Up to this stage the influence of every conceivable practice has been found impotent to explain the reduction, and now, for the first time, the question of vaccination is referred to.

Sheffield has admittedly obeyed the Vaccination Laws of 1867 and 1871 somewhat better than the average of English communities, but there was found an unvaccinated residuum of sufficient magnitude to form a valid crucial experiment as to the relations of small-pox to vaccination. Comparison can hence be drawn between the vaccinated and unvaccinated at various ages. Thus, of every 1000 children under ten years of age, during the epidemic, the attack rate of the vaccinated was 5, whereas that of the unvaccinated was 101; the death-rate of the vaccinated being 0·09, and that of the unvaccinated 44; or, to put it otherwise, for 100,000 vaccinated children the Sheffield small-pox gives 9 deaths; for 100,000 unvaccinated children it gives 4400 deaths. Coming next to children actually living in houses invaded by small-pox, there were 78 attacks per 1000 amongst the vaccinated, and 869 amongst the unvaccinated. And the result as to fatal small-pox is infinitely more striking, for amongst the vaccinated the rate was 1, whereas amongst the unvaccinated it was 381. Turning next to persons over ten years of age, the attack rate in persons twice vaccinated was 3 per 1000, in those once vaccinated it was 19, and in those not vaccinated it was 94; the corresponding rates for death from small-pox being 0·08, 1, and 51 respectively. Thus, whereas out of every 100,000 twice vaccinated there were 8 small-pox deaths, there occurred no less than 5100 deaths amongst the unvaccinated. And taking these same persons over ten in houses actually invaded by small-pox, the attack rate per 1000 amongst the vaccinated was 281, whereas it was 686 amongst the unvaccinated; the corresponding rates for fatal attacks being 14 and 371 respectively. And coming in the next place to consider the influence that has been exerted by vaccination upon the people of all ages living in Sheffield, it appears that the vaccinated had, as compared with the unvaccinated, a six-fold immunity against attack by small-pox, and a sixty-four-fold security against death by small-pox. And, as regards persons at all ages living in houses actually invaded by small-pox, the people of Sheffield had, if they were vaccinated, a more than treble immunity against attack, and a thirty-four-fold immunity against death by small-pox as compared with their non-vaccinated fellow residents living under the same circumstances. As to severity of attack, it was found that 17·2 per cent. of attacks amongst the vaccinated at all ages were severe or confluent, whereas amongst the unvaccinated the rate was 81·5. And for children under ten years of age the corresponding rates were 9 for the vaccinated and 78 for the unvaccinated.

As to special immunities from the disease, it was ascertained that out of 161 persons employed in the small-pox hospitals, 6 were attacked and 1 died, these attacks having all occurred amongst workhouse-hospital nurses, who were allowed to nurse small-pox patients without first undergoing revaccination; whereas amongst 81 who were revaccinated, and 18 who had had small-pox before their engagement, not one contracted the disease. Similar results followed successful revaccination amongst the troops stationed in Sheffield and amongst the borough police; and so also, of 290 men and boys employed by the Post Office, and daily working all over the borough during the period of the epidemic, not one contracted small-pox. All these had been revaccinated at the time of their engagement.

As the result of an elaborate examination of all the circumstances of this epidemic, Dr. Buchanan says "it would seem that no reasoning mortal could hesitate to find in this 'rite'—i.e., vaccination—*the* cause, and *the only cause* wanted to explain" the exceptional incidence of the disease upon the unvaccinated, the striking immunity of the vaccinated, and the still more striking immunity of those vaccinated either a first time or revaccinated within recent years. And he also points out that a lesson, already accepted by most persons, has been powerfully enforced by the story of this epidemic. It is that the degree of insusceptibility against small-pox by the vaccinated is less after some ten years of age than that possessed by younger persons, and that this insusceptibility can only be renewed by undergoing a further vaccination.

The account of the epidemic given by Dr. Barry is a masterpiece of genuine and skilled work; it has no equal in the history of small-pox; and whilst it shows conclusively that the aggregation of small-pox cases in urban hospitals tends to fan the flame of a slumbering outbreak, it shows as conclusively that we possess in vaccination a means of defying the infection of small-pox which goes far beyond anything that improved sanitary circumstances or other hygienic measures have ever done for any known infectious fever. Amongst children in Sheffield who had been vaccinated, there were 9 deaths from the disease; but had they died at the rate of the unvaccinated children, 4400 of them, instead of 9, would have lost their lives. "Here we may see," writes Dr. Buchanan, "what vaccination has done for Sheffield children under ten years of age."

A DUTCH FACTORIES ACT.—The Second Chamber of the Dutch States-General has passed a Bill regulating the conditions for the employment of women and children in manufacturing industries. The Bill prohibits the employment of children under twelve years of age. The daily period of work for persons under sixteen years of age and for women is limited to eleven hours, while in the case of children under fourteen and women nightwork is forbidden. There is an obligatory provision for a period of rest during the working hours, also that women shall not be employed for four weeks after confinement, and Sunday work is forbidden.

THE PARIS UNIVERSAL EXHIBITION.

(FROM OUR SPECIAL CORRESPONDENT.)

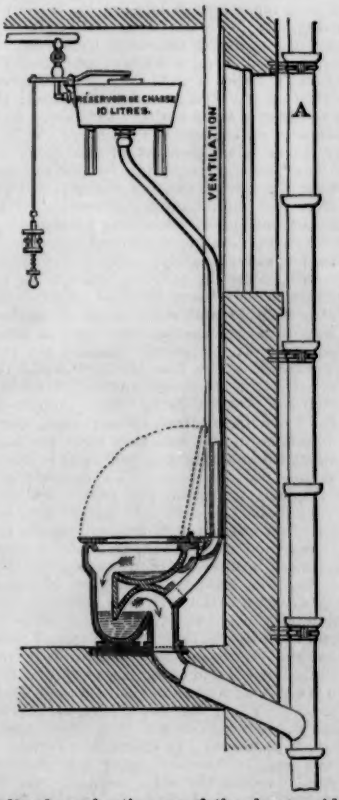
Domestic Drainage.

THE most recent Arrêté Préfectoral, or police ordinance, which governs the question of domestic drainage in Paris is dated Nov. 20th, 1887. It is based on several laws, some going as far back as 1790, but notably on the deliberation of the Municipal Council, to which we have already alluded, and which was voted on Feb. 28th, 1887. On Nov. 10th, 1886, there was another police decree, which sanctioned draining into the sewer for houses abutting on to main sewers, where there are boats, and rails, and methods permitting the thorough cleansing of the sewer, or on to smaller sewers provided with powerful automatic flush tanks. This, we repeat, is actually the condition of one-third of the total length of the Paris sewers. But to be able to thus drain into the sewer the householder must make a yearly contract, which the municipality may revoke at will. The conditions for such contract are that the house in question shall receive the town water-supply, and shall have a branch drain to the street sewer. Each closet must have a separate water tank, which will supply to the closet a minimum of ten litres per day per person—rather more than two gallons. The water must reach the closet pans in such a manner as to provide a powerful flush. The apparatus for this purpose must be examined by the Sanitary Service of the town and approved by the administration before it can be employed. This stipulation, which will be found in Clause 3 of the decree, is all-important. It practically places the method of flushing entirely in the hands of the sanitary inspector. He can reject any apparatus that seems unsuitable, and thus defeat all the manœuvres of the jerry builder. The pan of each closet must be provided with a water trap, and these rules apply equally to the closets attached to workshops, factories, &c. Clause 4 enforces the appliance of a syphon trap near the orifice of every waste-water or sink pipe, and all rain-water pipes must also be trapped. Then comes a very important clause. Every one of these pipes must be ventilated throughout. It does not suffice that they should be carried to the roof of the house, and there left open, but means must be provided for air to enter at the base so that there should be a constant and through draft. This is very much in advance of what is done in London. Intelligent householders occasionally see that their drains are ventilated throughout, but this is optional. There is no bye-law, no regulation, rendering such ventilation of drain pipes obligatory; whereas in Paris it is absolutely enforced with all the rigour of the law whenever any application is made for permission to drain direct into the sewer.

Another very important reform relates to the size of the soil pipes, which may vary from about three to six inches. Formerly, a soil pipe under nine inches diameter was not sanctioned, and of course it was impossible to keep such a huge pipe clean. The soil pipes must not be placed at angles exceeding forty degrees, must be carried to the roof of the house and left open, and the throwing of any foreign solid substance, such as kitchen refuse, into the drain pipe is forbidden. All soil-pipes must be glazed or enamelled within, carefully jointed, and those at the basement of the dwellings must have a fall equal to at least three in the hundred, and there must be a deep trap just before reaching the sewer. All these rules, and others that the administration may from time to time think fit to add, are to be executed at the cost and risk of the proprietor, acting under the direction and instruction of the agents of the Town Sanitary Service, and no attempt must be made to prevent these agents exercising the fullest control. Thus the entire power is in the hands of the sanitary authority, and the efficiency of the drainage really depends on the system which this authority thinks fit to apply. For this reason we reproduce drawings given to us by M. Louis Masson, the Chief Inspector.

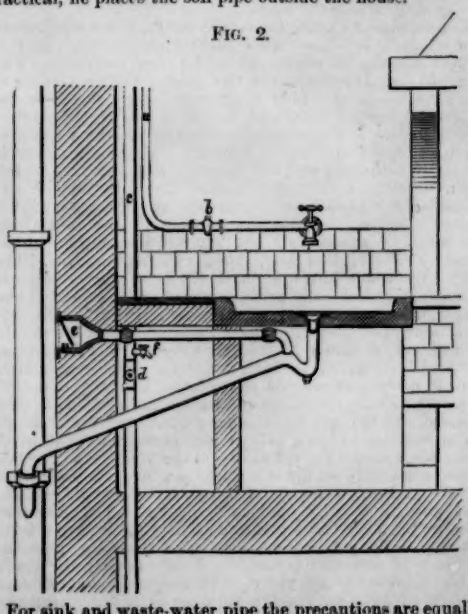
First, we have the closet, and by examining Fig. 1 it will be seen that M. Masson goes somewhat further than the actual stipulations of the prefectoral decree. For instance, ten litres per person per day is specified, but on applying the waste-water preventor ten litres can be supplied each time it is used, and this is a very essential improvement. Then we are told that the soil pipe must be ventilated throughout, consequently, M. Masson, adopting the best models, English and American, places a second ventilating pipe to relieve all pressure from the syphon

FIG. 1.



trap immediately under the pan of the closet. Also, where practical, he places the soil pipe outside the house.

FIG. 2.



For sink and waste-water pipe the precautions are equally if not more elaborate. We have in Fig. 2 a special air

pipe to prevent pressure on the trap. Sometimes this pipe is carried up the wall and joins the outside soil pipe or rain-water pipe at a higher level. When this is not done, then the contrivance given in the drawing is employed. A mica valve (*c* in the drawing) lets the air in, but prevents any air coming out. This air inlet would probably be near the kitchen window, and in the small back yard of a house where there are many other windows; and, undoubtedly, if it were also an air outlet it would prove mischievous. The rain-water pipe or soil pipe must be ventilated; this, however, must be done in some position well away from all the windows—that is, on the roof of the house. With all these precautions, there is no prospect of the water ceil being broken or of syphonage occurring by the suction arising from a sudden downward rush of water. It will be seen, therefore, that the Chief Sanitary Inspector of Paris has made an intelligent use of the discretionary powers given to him by the new police and municipal regulations.

There are not, unfortunately, many French householders sufficiently enlightened in sanitary matters to appreciate the advantages which these reforms afford. They will not go to the trouble and expense of alterations. But in public buildings and institutions, and in new houses, these methods are daily applied. Though the regulations are of such recent date, the sanitary authorities have already carried out this perfect method of drainage with regard to 1500 soil pipes in Paris. Many householders are, however, fully convinced that, in any case, the cesspool system is highly injurious, and they have for many years gradually substituted for the cesspool what is known as the *tinnette*, or *appareil diviseur*. This consists of a large metallic pail, placed under the soil pipe. Within, a wire-work partition holds the solid substances back, but allows the liquids to flow out through a small pipe to the sewer. The pail is removed every week, and this operation gives rise to but small inconvenience when compared with the emptying of the huge cesspool. The first important point to note in this matter is that no stipulation is made as to the condition of the sewer which may receive the liquid overflow from the *tinnette*, or pail. The second point is that precisely the same regulations as to the flushing, ventilating, and construction of soil and other pipes apply to the *tinnette* system as are enforced when the entire sewage drains direct into the sewer. Thus, for two-thirds of the streets of Paris, where the sewers are not in a good condition, we may still apply a thoroughly efficacious system of house drainage, the only difference being the presence of a movable pail to retain the solid sewage. On the other hand, the subscription is only £1 4*s*., instead of £2 8*s*. per annum per soil pipe. The movable pail will not give rise to any very serious nuisance.

The regulations being thus satisfactory, every effort must now be made to secure their general application. In this respect the English visitor can render great assistance. The English and Americans are the most valuable visitors to the French capital. They contribute largely to the profits of the shopkeeper, hotel and lodging-house keeper; and in taking rooms and apartments inquiries should always be made as to the method of drainage. If the closets, as is generally the case, are not trapped, and have no water-flush, or only a very insufficient flush; if the old and abominable cesspool still remains at the base of the house, infecting the apartments and all the rooms, let the would-be tenant call the landlord's attention to the Arrêté Préfectoral of Nov. 20th, 1887, and of Nov. 10th, 1886. Were this done systematically by a great number of visitors, it would soon produce the desired effect. Then again, whenever a case of infectious fever breaks out in a house not properly drained, a communication should be sent to M. Louis Masson, Inspecteur de l'Assainissement de Paris, 6, Avenue Victoria. The communication, if necessary, may be anonymous. In any case, the inspector will not reveal from whom the information has been received, but the fact that danger actually exists will enable the authorities to bring to bear such pressure as shall in all probability ensure the redraining of the premises. The law is now absolutely on the side of the sanitary reformer; what is wanting is more energy on the part of the public. The authorities are really anxious to deal with unwholesome dwellings. They feel a just pride in having secured a legal sanction to the practical application of the most approved methods of domestic drainage. Unfortunately, in Paris, public opinion has not yet ripened into a due appreciation of these advantages. Foreign visitors who hail from countries where sanitation is better understood can help considerably to develop a keener demand for good drainage, and by so doing will not only secure a greater immunity from disease for themselves, but will materially contribute to render Paris as healthy as it is gay and beautiful.

REGISTRATION MEDICAL OFFICERS.

A MEMORIAL was recently addressed to the President of the Local Government Board, through the Home Office, by the Manchester and Salford Sanitary Association, calling attention to the imperfections in the existing provisions made by the Registration Acts for supplying satisfactory causes of death for insertion in the Death Register. It is stated in the memorial that medical certificates are often erroneously filled up, that the place and time of origin of disease are not given, that in a large and varying proportion of cases no medical certificate is obtained, and also that in a large number of cases of alleged stillbirth no medical certificate is forthcoming. There can be no question about the depreciation of the value of our national mortality statistics due to these deficiencies, or of the urgent desirability for the removal of some of the defects of our registration system. The precise nature of the required improvements and the best way of effecting them are not in such clear evidence. With regard to the defective manner in which the causes of death are frequently certified by registered medical practitioners and by coroners, this is an evil which has received recurring notice and attention in the reports of the Registrar-General, but the suggestion of satisfactory remedy for the evil is full of difficulty. The assertion that "the place and time of origin of disease are not given" does not convey a clear idea of what information is desired. The previous residence of persons dying in public institutions is inserted in the Death Register, but "the place and time of origin of disease" would necessarily often give rise to mere conjecture, which would be of doubtful value if inserted in the register. With regard to the large and varying proportion of cases uncertified by registered medical practitioners or by coroners, the memorial prays that means may be taken to carry out the suggestion of the late Dr. William Farr, elaborated in the twenty-seventh Annual Report of the Registrar-General, that registration medical officers should be specially appointed in each district of the kingdom, whose duty it would be to view the body of every person who dies without the attendance of a registered medical practitioner, and the cause of whose death is therefore not certified, and, after due examination and inquiry, either to give a legal certificate or, if the cause of death were attended by any obscurity or, suspicion, to withhold such certificate until an inquest should be held, or until the coroner should have declined to hold an inquest. Dr. Farr suggested that the office he proposed to create should be held by the medical officer of health; but, in view of the increased duties which the development of sanitary organisation has thrown upon these officials during the last twenty years, it is more than doubtful whether they would be able to undertake these additional responsibilities. Moreover, as the registration medical officer would inevitably be closely associated in the performance of his proposed duties with coroners, it would probably be more desirable that the new appointments should take the form rather of medical assessors to coroners, in which case the expense of their salaries or fees would probably be to a great extent recouped by a reduction in the number and cost of inquests. In urging the appointment of these registration medical officers, Dr. Ransome, the chairman of the Manchester and Salford Sanitary Association, in a letter addressed to the President of the Local Government Board, appears to us, however, to exaggerate the increased value that would thus be given to our national mortality statistics in the words "we should then have mortality statistics of real value in place of the almost useless tables that are now collected by the Registrar-General." Either Dr. Ransome intends that the services of the registration medical officers shall be called into requisition in a far larger number of cases than in those that are now returned as uncertified, or he very greatly overestimates the value of a large proportion of the causes of

death now legally certified by registered medical practitioners and coroners. It is true that 17,465, or 3·3 per cent., of the causes of the deaths registered in England and Wales in 1887 were not certified, but the depreciatory effect of these uncertified deaths upon the value of the Registrar-General's statistics is small compared with the effect of the more than 50,000 deaths indefinitely certified as due to convulsions, dropsy, debility, atrophy, inanition, mortification, tumour, abscess, hæmorrhage, &c., to say nothing of the large proportion of the 29,595 inquests registered in 1887 in which causeless verdicts were returned. The whole subject presents difficulties which have to be considered and faced, and that they should be fairly met is due not only to the public but to the profession, from whom the State has demanded the gratuitous supply of medical certificates of the cause of death of all patients attended by registered practitioners in their last illness. The only reasonable pretext for such a demand is the value of such information to the State and to medical and sanitary science, and in order to justify this pretext the least the State can do is to take measures to secure satisfactory evidence of the cause of death in the balance of cases which now remain uncertified, and to impress upon coroners that the "cause" of death is one of the particulars respecting which they are required by the Registration Act of 1874 to inquire, and which should have a place in the finding of the jury.

ELECTRIC LIGHT FOR LONDON.

THE inquiry which has been proceeding during the past month at the Westminster Town Hall has at least demonstrated that the legislation of last year with reference to electric light undertakings has had to a very large extent the desired effect, and has brought forward a number of manufacturers ready to undertake the work of supplying electric current for lighting purposes. It thus appears that in the very near future the metropolis will be supplied with this new illuminant; and the only question which has now to be decided is as to the conditions upon which the various firms are to be permitted to lay their mains in the public streets and undertake the duty of electrical supply.

That question is, however, by no means free from difficulty. No fewer than nine companies have come forward with various and to a large extent competing schemes, and it will be a matter of some importance to adjust their mutual relations in such a manner as to secure to the public the benefit of the cheapest and most efficient service. Guided by the history of the gas industry, the authorities in 1883 adopted the policy of apportioning the area among various companies, and giving exclusive rights within a limited district. It is probable that the same policy will be followed now, and, indeed, it is plain that to some extent this must be so. In many of the more crowded streets of London the subjacent space is so occupied with cellars, sewers, gas and water pipes, and already laid electric wires for various purposes, that it is physically impossible to introduce two or three additional mains. Some limit must clearly be put to the use for lighting purposes of the public streets in at least many parts of the metropolis. The question of system, therefore, becomes a matter of no small importance. To a very large extent all the systems in question possess concurrent advantages. The freedom from heat, the absence of any demand upon the stock of oxygen, and the brilliancy and steadiness of the light, which constitute the best claim of the incandescent electric lamp to preference over gas, are common to all the forms in which the electric current is supplied, but the attendant risks to life and property and the trustworthiness of the supply are by no means the same in all the various systems. The battle is chiefly between the two types which are known as the alternating current or transformer system on the one hand, and the continuous current (with or without storage batteries, but usually with) on the other. The alternating current is subject to something like 18,000 reversals in a minute, and though this does not impair its efficiency as a heating agent, it renders it impotent for the ordinary purposes of electrolytic action, since at every reversal the new current undoes what its predecessor has just done. Hence the alternating current cannot be used to charge storage batteries, and for a very similar reason it has not yet been turned to any useful account as motive power. The difficulty of making these swift and antagonistic currents co-operate efficiently has hitherto baffled the ingenuity of mechanicians. These are serious drawbacks from the consumer's point of view. He never can be for a single moment independent of the generating engine; if that fails for a moment, he will be plunged in instantaneous darkness. Then, again, those thousand-and-one conveniences which arise from making electricity play the part of the household drudge are denied to the users of the alternating current. But, on the other hand, it is possible to use these swiftly alternating currents at very much higher tension than anyone would propose to employ in a current not subject to rapid reversals, and thereby to secure great economy in the distributing mains. Thus in all the schemes now before Major Marindin the continuous current is intended to be distributed at comparatively low pressure, not exceeding 100 or 110 volts. The shock from such a current would be perfectly harmless if by any accident it were passed through the human frame. The alternating currents, on the contrary, are to be distributed at pressures varying from 2000 to 2500 volts, and the effect of "short-circuiting" any appreciable current of this intensity through one's person would unquestionably be disastrous. Of course, precautions will be taken to prevent any passage of a current of this intensity into the lamp circuit, and the "transformer," from which the system has received a name, will reduce it to the safer voltage at which the ordinary electric lamp is run. But there is at least some ground for the uneasiness which one of its critics has expressed at the idea of "2500 volts grumbling in the cellar." Certain it is, however, that, with all its shortcomings, this is the only system which at present, or indeed for a long time to come, will be offered to large parts of the metropolis. The cheapness of its distributing plant gives to it such an advantage over competitors where a wide and straggling area has to be served, that it is fitted to succeed where other systems would be impracticable. Shortly the case may be put thus: electric current on the one system is distinctly better to have; but on the other system much easier to get. We hope that in the granting of provisional orders the Board of Trade will recognise the essentially experimental character of the present step, and take care that Londoners get a fair opportunity of testing every form of electrical supply.

THE LORD MAYOR AND THE HOSPITALS.

THERE was a demonstration in Islington last Saturday night, when a large body of trade, friendly, and temperance society members formed into procession, with bands and banners, and escorted the Lord Mayor and the Lady Mayoress, with the sheriffs, from the Angel at Islington to the Holloway Hall, where the Lord Mayor repeated the details of the penny-a-week scheme for relieving the hospitals, his remarks on the duty of working men and their employers to see that the hospitals did not fall upon the rates for assistance meeting with general approval; while the necessity for utilising all the benefits the hospitals were capable of also elicited appreciative cheers. Sir Albert Rollit, M.P., moved the first resolution, as follows: "That this meeting of members of Parliament, employers of labour, members of trade, friendly, temperance, and other societies representing North London resolve to use every effort for the furtherance of the proposal to organise in every factory, workshop, warehouse, club, and all centres of labour a contribution of one penny per week towards the support of the hospitals, dispensaries, and convalescent homes." This resolution was carried unanimously, as was also the following resolution—viz.: "That, in the opinion of this meeting, it is desirable that working-class representatives be admitted to a share in the government of our hospitals, dispensaries, and other medical charities of London, and the attendance should be given to out-patients at the various hospitals and dispensaries during the evening, that working men and women compelled to seek medical relief may not be compelled to lose time during working hours."

THE EXHIBITION OF THE ROYAL ACADEMY.

THE medical profession is but slightly represented this year at Burlington House. Our amateurs in art have either failed to send contributions to the show or their absence may possibly be otherwise explained. There are but two portraits of professional interest which were in each case subscribed for by friends. That by Mr. Ouless of Sir William Bowman is a careful study and fair likeness of the sitter, but unavoidably suggests mental comparison with the work of the late Mr. Frank Holl, who was to have painted the picture. The other portrait is supposed to represent the late Dr. Wilson Fox. The painter, Mr. Prinsep, performed his task, we believe, under great difficulties, as he had not the advantage of a sitting, but the result is such that we almost feel inclined to wish that the work had proved impossible.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Cardiff Rural District.—Owing to a portion of this district having been converted during the past year into an urban area, the vital statistics for the year cannot conveniently be regarded as a gauge of the health of the total district. Occurrences of enteric fever were found to have taken place in connexion with conditions tending to the pollution of drinking water, and with very faulty means of drainage. Measles was also widely epidemic in one portion of the district during the autumn, and Dr. Prichard points out that, under the circumstances, the disease could not be resisted. There was practically no isolation, and there was an absence of means of disinfection. The disease, too, was of a mild type, and some parents consequently seem to have sought, rather than avoided, infection for their children. Some improvement as to water-supply and drainage is recorded. Building bye-laws are stated to be in operation; and they appear to have been revised so as to allow that part of the open space required at the rear of new domestic buildings may be provided at the side. We hope that a substantial minimum is invariably required at the rear, and that the change does not in any way diminish such a minimum as is referred to as being necessary under the model code relating to this subject.

Barnsley Urban District.—Dr. Sadler's statistical tables show that the death-rate for the past year was 21·5 per 1000, which was below the decennial average. Reference is made in the report to the defective state of the back yards owing to the want of proper paving. This is a matter needing attention in many towns; and wherever it can be proved that nuisance arises in consequence, it should be compulsorily dealt with. Few things tend more to an excess in the infantile death-rate, such as prevails in Barnsley, than the existence of pervious surfaces for yards, coupled with the filthy and inexcusable practice of emptying middens and ashpits by first throwing the night-soil on to the surface, and, having thus fouled it, then attempting to remove it by scraping up as much as can be got away.

Barnsley Rural District.—In this district Dr. Sadler estimates the deaths for last year at 19·0 per 1000 living. So-called croup, which is entered as of the non-spasmodic type, caused fourteen deaths, in addition to five fatal attacks of recognised diphtheria, but the report goes to show that such efforts as can be taken are employed to get rid of the causes tending to the production and spread of this latter and of other infectious diseases. The Barnsley town hospital is available for cases coming from the rural district. Some brief account is given of nearly every populous place and village in the district, and it is evident that careful advice, at times followed by action, is given as to the local sanitary circumstances that need amendment. Each year advance is being made, and although some wholesale works, as for example those relating to sewerage, must before long be undertaken, yet Dr. Sadler finds many matters as to which he can congratulate the sanitary authority.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5719 births and 3567 deaths were registered during the week ending April 27th. The annual rate of mortality in these towns, which had been 19·9 and 19·4 per 1000 in the preceding two weeks, was last week 19·5. During the first four weeks of the current quarter the death-rate in these towns averaged 19·8 per 1000, and was 2·6 below the mean rate in the corresponding periods of the ten years 1879-88. The lowest rates in these towns last week were 12·4 in Brighton, 14·0 in Sunderland, 15·4 in Derby, and 15·8 in Nottingham. The rates in the other towns ranged upwards to 27·1 in Norwich, 27·2 in Leeds, 28·5 in Manchester, 30·0 in Plymouth, and 38·6 in Preston. The deaths referred to the principal zymotic diseases in these towns, which had been 436 and 440 in the preceding two weeks, rose last week to 461; they included 178 from measles, 142 from whooping-cough, 43 from diphtheria, 38 from scarlet fever, 36 from diarrhœa, 24 from "fever" (principally enteric), and not one from small-pox. These zymotic diseases caused no death during last week, either in Sunderland or in Derby, whereas they caused the highest death-rates in Manchester, Plymouth, and Preston. The greatest mortality from measles was recorded in Bolton, Preston, Manchester, and Huddersfield; from whooping-cough in Cardiff, Plymouth, Oldham, and Preston; from scarlet fever in Plymouth; and from "fever" in Preston. Small-pox caused no death in any of the twenty-eight large towns. No small-pox patient was under treatment at the end of the week either in the Metropolitan Asylum Hospitals or in the Highgate Small-pox Hospital. The number of scarlet-fever patients in the Metropolitan Asylum and London Fever Hospitals at the end of last week was 581, against 572 and 570 on the preceding two Saturdays; 53 cases were admitted to these hospitals during the week, against 56 and 50 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 294 and 300 in the preceding two weeks, further rose last week to 305, but were 78 below the corrected average. The causes of 68, or 1·9 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Sunderland, Oldham, Portsmouth, and in eight other smaller towns. The largest proportions of uncertified deaths were registered in Sheffield, Hull, and Salford.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·8, 23·0, and 23·7 per 1000 in the preceding three weeks, declined again to 21·7 in the week ending April 27th; this rate exceeded, however, by 2·2 the mean rate during the same period in the twenty-eight large English towns. The rates in these Scotch towns ranged last week from 12·9 and 13·3 in Edinburgh and Greenock, to 28·3 in Glasgow and 28·5 in Perth. The 554 deaths in the eight towns showed a decline of 53 from the number in the previous week, and included 43 which were referred to measles, 41 to whooping-cough, 11 to diarrhœa, 5 to scarlet fever, 4 to "fever," 4 to diphtheria, and not one to small-pox; in all, 108 deaths resulted from these principal zymotic diseases, against 87 and 107 in the preceding two weeks. These 108 deaths were equal to an annual rate of 4·2 per 1000, which exceeded by 1·7 the mean rate from the same diseases in the twenty-eight English towns. The fatal cases of measles, which had been 27 and 34 in the preceding two weeks, further rose last week to 43, of which 40 occurred in Glasgow and 2 in Greenock. The 41 deaths from whooping-cough, however, showed a decline of 9 from the number in the previous week, and included 32 in Glasgow, 4 in Dundee, 2 in Edinburgh, and 2 in Aberdeen. The 11 deaths attributed to diarrhœa exceeded the number returned in recent weeks; 6 were returned in Glasgow and 3 in Dundee. Four of the 5 fatal cases of scarlet fever, 2 of the 4 of diphtheria, and 2 of the 4 of "fever" occurred in Glasgow. The deaths referred to the principal diseases of the respiratory organs, which had been 173, 122, and 140 in the preceding three weeks, declined again last week to 104, and were 10 below the

number in the corresponding week of last year. The causes of 65, or nearly 12 per cent., of the deaths registered in the eight towns during the week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·7 and 23·5 per 1000 in the preceding two weeks, rose to 28·2 in the week ending April 27th. During the first four weeks of the current quarter the death-rate in the city averaged 25·8 per 1000, the mean rate during the same period being only 17·9 in London and 16·4 in Edinburgh. The 191 deaths in Dublin showed an increase of 32 upon the number returned in the previous week; they included 6 which were referred to "fever," 3 to diarrhœa, 2 to measles, 1 to scarlet fever, 1 to whooping-cough, and not one either to small-pox or diphtheria. Thus the deaths from these principal zymotic diseases, which had been 21 and 8 in the previous two weeks, rose again last week to 13; they were equal to an annual rate of 1·9 per 1000, the rates from the same diseases being 2·2 in London and 0·6 in Edinburgh. The fatal cases of "fever," which had been but 2 in each of the previous three weeks, rose last week to 6; the deaths from the other zymotic diseases scarcely differed from the numbers in the previous week. The deaths of infants showed a further decline from recent weekly numbers, while those of elderly persons showed a considerable increase. Seven inquest cases and 6 deaths from violence were registered; and 72, or more than a third, of the deaths occurred in public institutions. The causes of 7, or nearly 4 per cent., of the deaths in the city were not certified.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF HYDATID CYSTS OF THE LIVER.

To the Editors of THE LANCET.

SIRS,—Your correspondent Dr. W. Alex. Mackay has done me the honour of making "four cases of hydatid cysts of the liver" operated upon by me, and recently published in THE LANCET, the subject of a letter in your issue of last week. After quoting a paragraph from my remarks on the treatment, he comments as follows: "Briefly he (Mr. Morris) recommends incision and drainage without any washing out of the solid contents of these tumours." He then refers specially to the second of the four cases in support of his criticisms.

I am much indebted to Dr. Mackay for directing my attention to the possibility of anyone drawing from my paper the erroneous conclusion that I do not evacuate as far as possible immediately after incising these cysts.

I hasten to correct such an impression, against which, however, I should have supposed I had secured myself by describing how, in the very case which Dr. Mackay specially singles out for illustration, I emptied one of the two tumours which were present of all its tightly packed daughter cysts, with a common teaspoon; and that the sloughing daughter cysts which subsequently came away were from the second tumour, which I opened through the first, but which "*could not be satisfactorily evacuated*" at the time of the operation.

I may say further that I have often removed at the operation not only daughter cysts but large portions of the parent cyst also, and that, in the subsequent management of these tumours, irrigation has formed, where necessary, a very important part of the treatment I employ. To say, as Dr. Mackay does, that the results of incision and drainage, without irrigation, "are little better than the old fatal method of puncture with a large trocar, leaving a permanent opening," is to make a statement with which I cannot agree. By the incision method so free an opening is established that through it all the solid contents that are loose enough to come away can at once be most readily removed, as can also all the adherent parts of the parent cyst as soon as they are detached from the adventitious wall of the tumour; whereas by the puncture method it was often impossible either to wash out or pull out the solid portions until they were softened and broken up by the process of suppuration. Between 1871 and 1883 I operated upon many hydatid tumours of the liver by puncture with a large trocar; but though this operation by no means deserves to be styled "fatal," or to be accused of always leaving a "permanent opening," yet it was not seldom requisite to enlarge the puncture wound by cutting through the adherent liver and abdominal parietes, with a probe-ended knife, introduced along the trocar track, before the contents could be completely evacuated. It was, indeed, through the experience thus gained that I was encouraged to cut into the substance of the kidney for the removal of a calculus without fearing uncontrollable hæmorrhage. Like Dr. Mackay, I have had the good fortune to remove entirely at one operation all the contents of a large hydatid of the liver, but this cannot always be done with safety. For of one thing I have not the slightest doubt, and that is the danger of alarming and even fatal hæmorrhage from the use of forcible efforts to detach adherent portions of the parent cyst. Let those who doubt this possibility read a case reported by the late Dr. Bright years ago, and a case of accident to a hydatid cyst which has much more recently occurred. That sinuses, obstinately resisting all means to close them, will in some cases follow any operation on such tumours there is no denying; but such sinuses do not always communicate with the hydatid cavity. In the case referred to by Dr. Mackay the sinus was limited to the abdominal parietes of a very stout, self-indulgent woman, who was engaged in the somewhat laborious occupation of a fish saleswoman.

I am, Sirs, yours faithfully,

Mansfield-street, London, May, 1889. HENRY MORRIS.

THE FELLOWSHIP OF THE ROYAL COLLEGE OF PHYSICIANS.

To the Editors of THE LANCET.

SIRS,—I see by an annotation in THE LANCET of April 27th that the time of the year has again come round for the election of Members of the Royal College of Physicians to the Fellowship, and I also see, I think, that the article favours "those whose character and work mark them as worthy of promotion." Let us hope that all the Members of the College are men of good character and are ready and willing to work when they have the work to do. I have taken THE LANCET for nearly thirty years, and I am sorry to say that during that time I have not found it has advocated the very strong claims which belong to seniority. My opinion is that at least one-half of the Fellows should, as a matter of right, be elected according to seniority; the other half might be selected men and local favourites. Unless election by seniority be adopted great numbers of honourable and estimable, and, I may add, clever men, especially in the provinces, will have small chance of ever obtaining the Fellowship, for it is not every man who can pocket self-respect by begging nominations and canvassing for votes from gentlemen perhaps many years his junior in the College. "The hoary head is a crown of glory," but according to the present arrangement at the College of Physicians the "hoary head" acquired since enlistment under the banner of the College is of no avail in procuring the Fellowship unless backed up with good College influence. I myself am an example, I have no doubt, of a class of men spread over the kingdom. I regret to say that it is now thirty-four long years since I passed my examinations at the College of Physicians, and with the exception of change of name from Extra Licentiate to Member, I have been a full private ever since, although many gentlemen in the "year of grace" were permitted to join the College without examination by paying £10, and have since been admitted to the Fellowship. It is desirable in the interest of fair play that the subject of seniority be adopted and come into operation quickly. It may be depended upon that the College would not suffer in prestige and respectability by the adoption of part selection by seniority. Seniority is the leading claim for preferment in nearly all British institutions—in the Army, Navy, &c. If I had, for instance, joined the Army in the year I took my diploma at the College of Physicians, I would now in all probability be a Deputy-Inspector-General, without the intervention of nomination papers and votes.

I am, Sirs, yours truly,

EXTRA LICENTIATE AND MEMBER,
ROY. COLL. PHYS.; M.D., C.M.;
Fell. Roy. Med. Chir. Soc. Lond.;
Fell. Roy. Acad. Med. Irel., &c.

April 30th, 1889.

PROTECTIVE POWER OF VACCINATION.

To the Editors of THE LANCET.

SIRS,—In these days when there is a great tendency to do away with, or, at any rate, to undervalue the marvellous protective power of vaccination over that dread disease, small-pox, I deem it the duty of any person who has proved by facts the efficiency of the vaccine virus not to let the light thrown upon him be hidden under a bushel, but to come forward and state facts which have happened in his experience as to the thorough protective power of vaccination. I may state that some time since I was summoned to see a patient who had recently come from Wales to visit some friends who resided in a small village in the county of Cornwall. Two or three days after his arrival the disease proved to be variola of a confluent type. There were about eight or ten children who ran in and out of the house before the disease partook of its true character. Now, the most remarkable feature of this case was that, although these children had really been exposed to these germs, no child sickened for small-pox, all, except one, having been successfully vaccinated, and this one, an infant two months old, a healthy child, took the disease and died. Surely this is an indisputable fact which will take much more weighty arguments to upset than the anti-vaccinationists have hitherto expressed. I also must speak most highly of the importance of using calf lymph in preference to human, however carefully kept, as I firmly believe the strength of the virus becomes attenuated and perhaps deteriorated by repeated periodical vaccination. During my last public vaccination within this month I have found the calf lymph very successful, having done forty-five cases, and all, with the exception of one case, in which one point failed, resulted in four perfect vesicles.—I am, Sirs, yours obediently,

J. M. BRAUND,
Public Vaccinator for the North District of the Stratton Union, Cornwall.

May 1st, 1889.

To the Editors of THE LANCET.

SIRS,—In view of the popular interest which is again becoming aroused on the question of vaccination and the fact that another Royal Commission is imminent, the following additional instance of its efficacy is, I think, worthy of record. On Oct. 17th, 1887, a child was admitted into the Northern Fever Hospital in the peeling stage of scarlatina. On the sixth day after admission she showed signs of severe illness, followed on the third day by an eruption of semi-confluent small-pox. She was at once isolated, and on the morrow transferred to the small-pox hospital at Deptford. Steps were at once taken to vaccinate all patients who might, either directly or indirectly, have been exposed to the contagion. They numbered 162. With the exception of an assistant nurse, who was let off on her statement that she had been vaccinated thirteen months previously at the Homerton Hospital and had had a bad arm, all the staff, numbering 110, who were not marked by a previous attack of small-pox, or who were unable to show satisfactory marks of the operation performed within the previous year, were revaccinated. Only one person took small-pox, the assistant nurse referred to. On the night of the twelfth day following the child's removal she was seized with rigors, intense backache, and vomiting. Her temperature rose to 105° the same night, followed by the eruption on the third day. The case ran the usual course, and was typical of modified variola. No other case occurred. Now, without claiming too much for vaccination in this instance, by allowing a wide margin for possible fallacies, such as the varying degree in which different patients and members of the staff were necessarily exposed to the contagion, possible errors in some of their statements as to the date of their last vaccination, the admission of some cause other than sufficient previous protection, to account for those cases in which the revaccination failed to take, the inference to an unbiased mind cannot fail to be striking. The case in point is merely another illustration of the lesson which is constantly being derived from the experience of the various small-pox hospitals. But the constantly accumulating evidence on this subject may unfortunately be expected to make about as much impression on a mind pregnant with Utopian notions of the "liberty of the subject" as the verdict of a dozen Royal Commissions.

I am, Sirs, yours obediently,
FRED. FOORD CAIGER, M.D. Lond., D.P.H. Camb.

Hampstead, April, 1889.

"IS OUR LUNATIC ASYLUM SYSTEM A FAILURE?"

To the Editors of THE LANCET.

SIRS,—I have read with much interest Dr. Tuke's paper in the April number of the *Nineteenth Century*, and your criticism thereon in your issue of the 20th ult.

With the major part of Dr. Tuke's paper few medical men connected with asylums will disagree, but there are one or two points on which I believe a discussion might be of advantage—at any rate to the junior members of asylum staffs, who are at least as equally interested in the study of insanity as in the affairs of administration which meet them at every turn. As I read his paper it appears to me that his chief hopes for the cure of insanity lie in the direction of the more thorough study of the acute cases, and you approve and accentuate this in your criticism. With much deference to Dr. Tuke's long experience, I venture to submit that the study of the more chronic cases is at least equally important, and, indeed, may give far more important results. I assume from several passages in his paper that Dr. Tuke discards the psychological theory of insanity, and looks upon it as an organic disease of the brain. I write under correction, but I believe there must be very few organic diseases in which an enlightened method of treatment has been obtained from the nearly exclusive study of their more acute phases. It seems to me that the whole fabric of the pathology of the diseases of the cord has been built up by working backwards from the morbid appearances at the termination of the disease. How easy is, for instance, the recognition of the morbid anatomy of locomotor ataxy in its advanced stages; how difficult the pathological appearances at its onset. The morbid appearances of acute insanity are practically *nil*. In chronic insanity the changes in the brain and its membranes are so patent and extensive that it is impossible to elude the suggestion that they stand in the relation of cause and effect.

It is impossible within the limits of a letter to mention all the points bearing on this subject. I have only to add that the present apparent hopelessness of the cure of confirmed insanity should be a stimulant and not a bar to its study.

I am, Sirs, yours faithfully,
FREDERICK BRYAN, M.B.

The Asylum, Colney Hatch, N., May 1st, 1889.

SCURVY IN CASUAL WARDS.

To the Editors of THE LANCET.

SIRS,—Although genuine cases of scurvy are not uncommonly met with amongst the London poor, the fact that the frequenters of the metropolitan casual wards occasionally develop the disease is worthy of record. During the past year I have noticed six cases, in all of which there were extensive subcutaneous effusions of blood in the lower limbs, the popliteal space being the seat in four cases, and the region immediately above the ankle in the remaining two. Peri-follicular hæmorrhages scattered over the legs and thighs were present in all the cases, spongy gums were detected in three, and cardiac weakness in one who fainted while taking the customary bath on admission to the infirmary. All the cases speedily recovered, the treatment adopted being the administration of the tincture of the perchloride of iron and a generous diet, including fresh vegetables. They were all males, and belonged to the regular vagrant class who wander from one casual ward to another, and, according to their statements, in none of these wards had they received fresh vegetable food.

I am, Sirs, yours faithfully,
SHERMAN TOOGOOD, M.D. Lond.

Shoreditch Infirmary, N. April 29th, 1889.

THE ETHER SPRAY IN STRANGULATED HERNIA.

To the Editors of THE LANCET.

SIRS,—In your last issue, Dr. Marett Tims describes a case in which he effected reduction of a strangulated hernia by aid of the ether spray. As he expresses uncertainty as to whether such application of the spray be novel and original, and invites correspondence upon the subject, I am led to communicate my little experience of the matter.

I first used the ether spray, as an adjunct to the taxis, seven months ago. The patient was an intractable old

chronic maniac, on whom I had performed herniotomy twelve months previously. When the hernia returned and became strangulated, it occurred to me that the ether spray would effect all the good obtainable by the use of ice, and would be free from the disadvantages associated with the latter. The hernia was femoral and extremely tense; but after the spray had been applied to it for a few minutes the tenseness markedly diminished and reduction was soon accomplished. Twice within this month strangulation of the same rupture has recurred: the patient has been collapsed; vomiting, pain, and distress have been urgent; and the tumour has been completely hard and irreducible. Each time, however, the spray has quickly brought the tumour into the reducible condition. In the few other cases of strangulated hernia in which I have used it I have found it equally effective. If the hernia be large, it is often necessary to reapply the spray several times during reduction—a fact probably due to the return of heat in the parts, with consequent expansion of the intestinal gases. It is to the rapid great contraction in volume of the gases contained in the enterocele, caused by the deprivation of heat, that I attribute the main action of the spray. This result is produced without any of that pernicious pressure upon the extruded viscus which is inseparable from the use of an ice-bag. My cases have not included any in which much omentum or any solid organ formed the hernial contents.

I am, Sirs, yours faithfully,

Wakefield Asylum, April 30th, 1889. ERNEST BIRT.

To the Editors of THE LANCET.

SIRS,—If Dr. Tims will look over THE LANCET of 1865 or 1866, he will find the report of a case of strangulated hernia reduced after the application of ether spray. This, I believe, was about the first case in which the spray was used. I am, Sirs, yours truly,

Surbiton, April 30th, 1889. F. P. ATKINSON.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Blue-coat School.

THE annual meeting of this old-established charity was held on April 26th, Mr. J. D. Goodman, the President, in the chair. The report showed that on Dec. 31st there were in the school 162 boys and 94 girls. The balance-sheet showed that the total income was £11,123 15*s.* 1*d.*, which included £2445 4*s.* 4*d.* withdrawn from deposit account. The expenditure had been £10,841 12*s.* 4*d.*, leaving a balance of £282 2*s.* 9*d.* An interesting feature among the donations was one of £100 from a former pupil, a girl. The President, in an elaborate and careful report, called attention to the overcrowding of the school, and strongly urged the necessity of providing for this, either by removing the school from the present site, or taking part of the pupils away. He pointed out serious sanitary defects in the accommodation, particularly in the dormitories, where the girls had only 233 cubic feet of space each, often sleeping two in a bed, and the boys 322 cubic feet each. From figures quoted from various institutions, he dwelt on the inadequacy of this amount. The playgrounds, also, were far too small for the number, and the sanitary arrangements of the building greatly inferior to the proper requirements. A discussion followed, in which various opinions were expressed about the desirability of removing to another site, and it was pointed out that a sub-committee, called the New Institution Committee, was formed to take the question into consideration. The report was adopted.

Birmingham and Midland Skin and Lock Hospital.

The annual meeting was held on April 26th, the Rev. Canon Wilkinson in the chair. The number of new cases in the skin department were 1577, being an increase of 262 on the previous year; in the lock department 717, showing a decrease of 8 on the year preceding; 47 applicants were rejected as not being objects of charity. The balance of income over expenditure was £280 13*s.* 6*d.* The principal event of the year was the opening of the new hospital on June 7th, when donations to the amount of £434 5*s.* were announced. The committee were gratified to state that the institution was free from debt, possessing a balance of £143 3*s.* 6*d.*; this is a circumstance of congratulation, and a good omen for the new project. At present the hospital is without beds, and it is hoped that shortly there will be some at the disposal of the staff.

Resignation of Sir James Sawyer.

Sir James Sawyer has resigned his post of acting physician to the Queen's Hospital, after a long period of valuable service. His present numerous engagements have forced him to this necessity. While he must welcome the increased leisure this resignation will place at his disposal, he will regret the severance of ties which have been associated with so many friendships and interests. No doubt he will be appointed consulting physician, and in some measure keep up his connexion with the institution.

Birmingham, May 1st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Public Health.

BOTH in Manchester and Salford matters pertaining to the sanitary condition and health of the community at large continue to attract a considerable amount of public attention. By means of meetings, conferences, and newspaper correspondence, our high rate of mortality and the condition of many of the homes and dwellings of the poor have been forced upon the attention of those who to some extent have the power to apply a remedy. The Unhealthy Dwellings Committee of the City Council will at their meeting present a report as to what they have done recently in demolishing unhealthy houses and courts, and will ask that power be conferred upon them by the Council "to put into operation the powers of the several Acts of Parliament relating to the provision of suitable dwelling and lodging houses for the labouring classes." In Salford, too, steps are being taken on the same lines, and both corporations will find ample work in this direction, which they may legitimately undertake in abolishing many of the worst of our "rookeries," and opening them up to such fresh air and sunlight as this smoke-laden atmosphere permits us to enjoy.

Amalgamation Projects.

Many of the neighbouring townships appear now to be fast coming round to the conclusion that they will have to throw in their lot with Manchester and become part of the city. From a public health point of view there is little room to doubt that this is the wisest course. As to the amalgamation of Salford with Manchester, there is little probability of this being accomplished for some time to come, as the authorities of the former have drawn up a report opposing strongly any such course. By the removal of Dr. Tatham as medical officer of health from Salford to Manchester, an opportunity was afforded, which by many sanitarians it was hoped would be taken advantage of, to bring the executive of the Health Departments under one head, had the prospects of amalgamation been more favourable. This is, however, now quite put aside, and the Salford corporation are at the present time proceeding to appoint a new officer of health in Dr. Tatham's place.

The Cab Poisoning Case.

As already noted in THE LANCET, the youth Parton, sentenced to death for the murder of a gentleman in a cab by means of chloral, has been reprieved. A petition, signed by 20,000 persons in his favour, and a recommendation by the jury and judge, were too strong for the Home Secretary to resist. Apparently the one weak point in the prosecution was the actual part which the chloral played in causing death, and how much was due to the deceased's physical condition at the time of his death. It was shown that he was under the influence of alcohol, and, further, that his system generally was far from healthy, owing to chronic alcoholism. The evidence submitted by the analyst proved only such small quantities of chloral that some people thought it wrong to convict on this alone, and the remainder of the evidence as to the administration of chloral was circumstantial only. If such quantity was given as to cause death within half an hour, one would expect that a chemist would find something more than traces. It would seem that there is scope here for analysts and chemists to devise better methods than at present are in use for the detection and estimation of chloral in organic mixtures.

The Hospitals.

A public inquiry on behalf of the Local Government Board was opened a fortnight ago, and stands adjourned until this week, respecting a proposal to erect a new Fever Hospital on some land in Eccles New-road. As usual, much opposition is being encountered from the adjoining district, and especially from those residents whose houses are within a quarter of a mile of the proposed site. Even those gentlemen who gave evidence on behalf of the hospital authorities admitted that it would be unwise to bring small-pox cases here, and therefore, if these cases are still to be taken to the Fever Hospital of the Royal Infirmary, it does seem as though all cases might go there, especially as there is any amount of land available at Monsall. At the last meeting of the Infirmary Board allusion was made to the large extensions and improvements which have been made to the Fever Hospital at Monsall, and it was decided that the members should visit and inspect the new buildings, &c. If they have done so, it may perchance have some bearing upon the above question. It will be remembered that a few months ago considerable feeling was shown over a proposed additional appointment of honorary assistant surgeon to the Salford Royal Hospital. The question was settled at the annual meeting, and since that time Mr. Lund (son of Professor Lund) has secured the post.

Horseflesh as Meat.

Mr. Knowles' (one of the members for Salford) Bill for regulating the Sale of Horseflesh having passed its third reading in the Commons, we may hope soon to hear less frequently of horseflesh being palmed off as beef upon the poor. If other large towns are the same as ourselves in this respect, a considerable amount of this swindling (to say nothing about health interests) must be going on throughout the country.

The accounts of the Hospital Sunday and Saturday collections have now been made up, and come out much better than was at first feared would be the case, the sum reached being upwards of £7884.

May 1st.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The British Association: Newcastle Meeting.

THE arrangements for the meeting of the British Association in Newcastle next September have made good progress, and it is looked forward to as likely to be one of the most successful meetings of the Association. The fact that the President-elect is a distinguished member of our profession—Professor Flower—will give it an interest in medical circles. The local papers are giving notices of the various officers of the Association, and have pointed out, when speaking of the President-elect, his distinguished career as a military surgeon, anatomist, and naturalist, and, indeed, as an all-round man of science.

Ambulance Work at Gateshead.

At a public meeting held last week at Gateshead to present medals and certificates to the classes instructed by Dr. Green, the mayor spoke very highly of the St. John Ambulance Association, and remarked that it was an unfortunate fact that in the past, whilst we had taught children something about the structure of the earth, we had taught them very little about the structure of their own bodies. At the same meeting Dr. Green received a handsome presentation.

Death from Match Poisoning.

A man aged twenty-three has died from the effects of match poisoning in Newcastle Royal Infirmary. He informed the police officer who took him to the infirmary that he had steeped fifteen boxes of matches, and drank the liquid.

Typhoid Epidemic in the County of Durham.

About three weeks ago the local practitioners at New Herrington and neighbouring villages remarked the numerous cases of fever with typhoid symptoms which were getting on their lists day by day. The cases have increased until now there are said to be over 200 persons ill. Professor Philipson has seen some of the worst cases. Up to this there have been five deaths. The sufferers are mostly colliery workmen under the Earl of Durham, and it is said that his lordship's agents have spared no expense in cleansing and disinfecting the houses connected with his collieries, and it is hoped that the vigorous methods adopted will soon arrest the progress of the epidemic.

Carlisle.

A very unpleasant matter was reported in the Carlisle papers last week. A soldier's infant, living with its mother out of barracks, was taken suddenly ill with convulsions following bronchitis and whooping-cough, it is supposed. It was very late at night, and the father had to go to do duty at the barracks, so a town missionary went to seek medical aid, but was unsuccessful; some he called on, for various reasons, declined to go; others did not answer the night bell; at last, after several hours, a medical man went, but meanwhile the child had died. A painful part of the story is that the missionary called at the barracks and sent in word as to the child's danger, but the soldier was unable to get out before five o'clock, and then only to find the child dead. The affair looks very sad in the papers, and the coroner's jury, without waiting for any explanation, have censured the whole of the medical men who did not attend. I suppose this will happen again, or something like it, until some arrangement is made by which a practitioner is appointed for casual night duty in districts of our populous towns and cities. An occurrence like that reported from Carlisle—a mother losing her life for want of assistance in childbed—is much to be deplored.—The death is announced of Dr. Barron, formerly an active practitioner in Sunderland. He was much esteemed in the profession, and was for many years associated with the honorary surgical staffs of the Sunderland General Infirmary and the Shields and Westoe Dispensary. The death of Dr. Jackson of Bellingham is also announced. The deceased held the appointment of medical officer for the second and fourth districts of the Bellingham Union.

Newcastle-on-Tyne, May 1st.

EDINBURGH.

(FROM OUR OWN CORRESPONDENT.)

The Social and Sanitary Society.

Such reports as those handed in from the poorer quarters of the city by the superintendents of the various city missions should place the Town Council in an unassailable condition, should they at any time determine to recommend that regularly qualified inspectors are to take the place of amateur officers of health. These amateur officers are doing good work, in so far that they are drawing public attention to a state of affairs of which few Edinburgh citizens have the slightest conception; but it cannot be expected that ladies and city missionaries, however good their intentions may be, can act with any great efficiency in the combined capacities of inspectors of nuisances, medical officers of health, burgh engineers, and city missionaries. They should be thanked for their good intentions and for their good work, but they should certainly be relieved of some of their self-imposed duties. The following are some of the points to which they have paid attention, and on which they have reported with great care and ability: the lighting, cleaning, and whitewashing of common stairs, the cleaning of cisterns and the sufficiency of the water-supply generally, the condition of the drains and soil pipes and water-closet accommodation, the uninhabitable condition of certain houses and the social status of the inhabitants, the condition of dunghills and cesspools, the presence of smells, the flooding of cellars, and numerous kindred matters. The liberty of the subject should always be respected, but where the health of the community may suffer from a degeneration of such liberty into licence it becomes the duty of the Town Council to do something more than receive such reports.

Studies in Clinical Medicine.

I have just seen a copy of a small publication, which, if kept up to its present standard, should do much to increase the reputation of the Edinburgh School of Clinical Medicine and of its author, Dr. Byrom Bramwell. Dr. Bramwell, with the assistance of Mr. Pentland, has determined, he says, to publish every alternate week during the summer and winter sessions an account of some of the more interesting and instructive cases which come under his notice in the out-patient department of the Edinburgh Royal Infirmary.

The questions put to the patients, the patients' answers, and the comments on the cases will, so far as possible, be published verbatim, much as Professor Charcot publishes his fascinating reports of his polyclinic. The idea is a capital one, and one which might, in a large teaching centre like Edinburgh, be greatly extended; it does credit not only to Dr. Bramwell's ability but to his capacity for teaching and his appetite for work. On his part Mr. Pentland promises good paper, illustrations in the form of woodcuts, lithographs, and, should the occasion seem to demand it, coloured drawings. In the present number, after the introduction, we are introduced to the case of a patient suffering from intracranial syphilis, to one with mitral stenosis, hæmoptysis, and old infantile paralysis, and to two cases of ulcer of the stomach. The number concludes with an article on out-patient practice and teaching.

The Examinations for the Triple Qualification.

At the April examinations for the triple qualification of the Edinburgh Colleges and the Glasgow Faculty there passed in the first examination twenty-four out of forty-two candidates, or 57 per cent.; in the second examination, thirty-one out of fifty-eight, or over 53 per cent.; and at the final, seventeen out of thirty-eight, or less than 45 per cent. The session in the University and all extra-mural classes open on Wednesday, May 1st.

Edinburgh, April 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

DUBLIN.

Royal College of Surgeons in Ireland.

THE first Monday in May of each year is the usual time fixed for the election of examiners, but on this occasion it will be adjourned to a later date.

British Dental Association: Presentation to Mr. Pearsall.

At a meeting of the Irish Branch, held on Saturday last, the President, Mr. Robert Moore, on behalf of the Reception Committee, presented the honorary secretary, Mr. Pearsall, with a massive silver tankard. The piece of plate bore the following inscription: "Presented to W. Booth Pearsall, F.R.C.S.I., honorary secretary, Irish Branch, British Dental Association, by his fellow members of the Reception Committee as a small token of their appreciation of the indefatigable zeal which brought to a brilliant and successful issue the annual meeting of the British Dental Association in Dublin. August, 1888." Mr. Pearsall having replied in suitable terms, the President of the Association, Mr. Daniel Corbett, read an inaugural address on Dental Caries."

County Clare Infirmary.

In the Queen's Bench Division last week a question arose as to the validity of the election of a medical officer to the County Clare Infirmary. The question involved came before the Court on an application to make absolute a conditional order for a *quo warranto* to test the validity of the election of Mr. Hynes to the office of surgeon to the infirmary. The vacancy occurred by the death of Dr. Cullinan, and the election took place last January. The two candidates were Dr. Faris and Mr. Hynes, and ten voters recorded their votes. The matter in dispute arose as to the validity of some of the votes, two members of Parliament for the divisions of the county having voted for Mr. Hynes, who was elected by a preponderance of votes. The Court held that on the construction of the 40th George III., cap. 32, the members of Parliament for the divisions of the County Clare were not members of the corporate body so as to be entitled to vote, and therefore should be disallowed. Another voter for Mr. Hynes was also disqualified, and one also for Dr. Faris. Accordingly the election has been declared to be abortive, and there must be a new one. The conditional order was made absolute, but without costs. A somewhat similar case is at present being tried in reference to the surgeoncy of the Cork South Infirmary.

Sanitary Condition of the Cork Workhouse Hospitals.

At a meeting of the Cork guardians last week, Dr. Cummins, medical officer of the workhouse, said he had reported on several occasions in reference to the insanitary condition of the hospitals. There were two ward-masters at present laid up with blood poisoning and diphtheria, and another with continued low fever. A contract has been accepted for the erection of one turret containing twelve waterclosets, and tenders are invited for four additional turrets containing twelve closets each.

Cork Lunatic Asylum.

The Cork Corporation have refused to nominate more than four members of Council for the four seats to which they are entitled on the board of the asylum. His Excellency the Lord-Lieutenant requires more than four names in order to select the specified number, and declines to divest himself in their favour of the responsibility imposed on him for the selection of individuals to be appointed.

The President of the College of Physicians gave a dinner on Saturday last, the company including the Lord-Lieutenant.

Dublin, April 30th.

BELFAST.

The Royal University.

THE election of Professor Sinclair as Senator in the Royal University has given general satisfaction, and will tend to strengthen the representation of the Belfast Medical School in the University. In the last calendar of the University which has just been issued, there are the following new regulations:—After the year 1889 students entering for the examination for medical degrees will be required to present certificates of having attended six complete necropsies; of having had personal charge of at least six cases of diseases peculiar to women, and a similar certificate of attendance on at least six cases of diseases or affections of childhood. Further, at the examination of 1890, and thenceforward, every candidate for the M.A.O. degree must produce a certificate of having attended during a period of three months the practice of a clinical hospital for diseases of women, where at least six beds are in constant occupation, or in a special ward of a general hospital where such cases only are treated, and containing at least six beds in constant occupation. In the case of the certificate from an eye and ear hospital there must be ten beds. An election for a Senator in the Royal University in place of the late President Porter will shortly take place. Mr. Edward Cuming, B.L., is a candidate. It must be filled up by Convocation.

North of Ireland Branch of the British Medical Association.

At the last meeting, held in Belfast on Thursday, April 25th, Dr. O'Neill showed a boy who suffered from depressed fracture of the skull, and who recovered after removal of a part of the frontal bone. He subsequently, as the result of an accident, developed hip-joint disease, and from this he also rallied, and is now well. Professor Cuming exhibited a lad who is a rare instance of post-hemiplegic chorea and hemi-atrophy of the face. Mr. Fagan showed two patients: in one he removed half the Tongue after ligature of the lingual; in the other he tied the Carotid for a wound in the neck. He also brought before the members the parts recently removed from a patient the subject of the Aneurysmal diathesis, where he tied the subclavian four years and the external iliac six weeks previously to the death of the patient. Dr. Walton Browne showed the recent parts from a case of traumatic aneurysm. Dr. Byers showed a boy with well-marked subcutaneous rheumatic nodules. He also exhibited the tumours successfully removed in four ovariotomies, the last one completing a series of seven consecutively successful abdominal sections done by him in the Royal Hospital. Dr. J. A. Lindsay read notes of a case of diabetes.

Belfast, April 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Anæsthetics.

AT the meeting of the Academy of Medicine last week, Professor Regnauld, in a note on the discovery of anæsthetics, first of ether, then of chloroform, stated that the latter possesses a marvellous power, but that it is not without danger, and under the influence of air and light it is very rapidly altered. As to the chloride of methylene introduced to notice some years ago, the researches of M. Regnauld have established that this product is merely a mixture of four volumes of chloroform with one volume of ethylic alcohol. The veritable chloride of methylene

obtained by M. Regnauld is also an anæsthetic, but when employed upon animals it determines nervous phenomena such as contractures, convulsions, and choreic or epileptiform attacks, so that he thinks it should not be tried on man. The ordinary chloride of methylene may, however, be continued to be employed, as, besides being less dangerous than chloroform and safer in its administration, it has the advantage of costing less and of being unalterable under the combined influence of air and light.

Origin of Tetanus.

At the same meeting the discussion on the origin of tetanus was resumed. According to M. Leblanc, a well-known veterinarian, the equine and bovine origin of tetanus is far from being proved. If in certain cases its telluric origin is probable, in the greatest number it is very contestable. The contagion by the air, by water, and by dust is not admissible, whereas the influence of predisposition is undeniable. This influence even plays the principal *rôle* in the genesis of tetanus. If the infectious nature of tetanus has been experimentally demonstrated by inoculating altered tissues or with soil taken from infected regions, practically the contagion, whether with regard to man or animals, has not been proved. M. Nocard, another distinguished veterinarian, is not quite convinced of the equine origin of tetanus. He thinks that the observations communicated by Professor Verneuil may be otherwise interpreted. M. Nocard does not speak of the cases relating to wounded subjects who had been in contact with tetanic horses, as it is known that the products of a wound from which tetanus proceeded, if inoculated, would justify the admission of the possibility of contagion from the horse to man. Many facts show that the horse incriminated had not tetanus, and it had no relation whatever with a tetanic animal. It is true that M. Verneuil does not hesitate to admit that a healthy horse may give tetanus, not because it is tetanic, but because it is a horse. M. Nocard observed that to prove that one can give tetanus in inoculating the blood, saliva, and the excrements of a healthy horse, an experiment should be performed; but this has not been done. The appearance of tetanus is better explained by the action of the soil upon the wound than by the contact of the incriminated horse. M. Nocard concluded his note by the remark that the tetanic action of the cultivated soil is the only fact as yet established. Both these speakers saw no reason whatever to place tetanus among the number of contagious maladies recognised by law. In connexion with this subject, the following note, which was communicated to the Academy of Sciences a short time ago, may be found interesting. Nicolaïer had already remarked that animals inoculated with tetanic earth died four days after the inoculation, and that, if a little pus were taken from their wound to inoculate other animals with, the latter succumbed the next day. M. Bossons undertook the study of this question, and he has arrived at results which he summarised as follows: "The tetanic bacillus is very prevalent in the soil, and when it comes in contact with wounds presenting special conditions of receptivity, which ulterior experiments alone can establish, these soils can easily engender tetanus. I therefore think, as a practical conclusion of these experiments, that it will be very useful to proceed immediately to the most minute disinfection of all wounds, even the most insignificant in appearance, which may be supposed to have been in contact with any soil whatever."

Suture of the Cornea.

Dr. F. Suarez of Angers made a communication to the Academy on a method of suturing the cornea, which presents certain advantages. In the first place, it will prevent hernia of the iris, and the complications which result from this accident. It renders perfect the coaptation of the edges of the corneal wound, and prevents the risk of the reopening of the wound which takes place on the second or third day. Finally, when the posterior crystalloid body is broken during the operation, the method permits the limiting of the loss of vitreous humour.

Paris, April 30th.

THE YEATMAN HOSPITAL, SHERBORNE. — The twenty-third annual report of this institution announces an increase of £68 8*s.* 11*d.* in the general income for the past year, enabling the committee to extinguish the debt with which the year commenced. The in-patients numbered 154, and the out-patients 212.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Medical Congress at Wiesbaden.

THE eighth Congress for Internal Medicine was opened on April 15th in the White Hall of the Kurhaus at Wiesbaden, under the presidency of Professor von Liebermeister, of Tübingen. All the German universities and many of those of Austria, Switzerland, Russia, France, Great Britain, and Sweden were represented by eminent teachers and practitioners. In his opening address the President celebrated the memory of the late Professor Frerichs, one of the founders of the Congress, and laid stress on the fact that the Congress still pursues the same aims as it did when it was founded eight years ago. Internal medicine, he said, is the central part of the science and art of healing, to which the special departments are related as branches to the trunk. He spoke of the general interests of the medical profession, which are such prominent objects of discussion at present, exhorting the profession to carry on its work unhindered by sordid considerations of gain, and demanding that the public be protected against exploitation by quacks, who promise everything and perform nothing, just as it is protected against gambling establishments, and foreign lotteries. After the vice-presidents and secretaries had been elected, Professor Schultze of Bonn spoke in warm terms of the eminent qualities of his predecessor, the late Professor Rühle, both as a physician and as a man, and the assembly rose from their seats in honour of the deceased. Then Professors Curschmann of Leipsic and Leichtenstern of Cologne communicated the results of their studies and experience on the treatment of Ileus, which gave rise to a lively debate. On the 16th inst., Professor Immermann of Bâle spoke on the Functions of the Stomach in Consumption, and expressed the opinion that the digestive powers of consumptive patients are mostly better than is generally supposed. Dr. Dettweiler of Falkenstein then spoke of the Spread of Consumption by Infection, and declared that there is no such danger if the expectorated matter be disinfected, the danger lying in the abuse of the handkerchief and the floor. He exhibited a little pocket apparatus constructed by him for the facilitation of this end. It has two openings, the upper of which, closed by a screw-cover with a funnel like that of an ink-bottle, to prevent outflow, receives the expectorated matter, while the lower renders the rapid cleansing of the apparatus and removal of the matter possible. The speaker was followed by Drs. Carnet, Moeler, and Fürbringer, all of whom expressed their warm approval of Dr. Dettweiler's invention. In the evening there was a banquet of 300 covers in the Kurhaus. On the President's proposing the health of the Emperor, "the vigorous young protector of the German Empire," the assembly rose from their seats and sang the national anthem, accompanied by the band. The Congress held its last meeting on the 18th. Dr. Seifert of Würzburg spoke on Rhinitis Fibrinosa; Dr. Posner of Berlin on the Diagnosis and Cure of Chronic Prostatitis; Dr. Mordhorst of Wiesbaden on Electric Massage; and Dr. Storch of Copenhagen on the Use of Bunsen's Aspirator in the Aspiration of Pleuritic Exudations and in the Distension of the Lungs after Operations for Emphysema. The President, Professor von Liebermeister, closed the Congress with the following words: "We can look back with special pleasure on this year's Congress, for it has been one of the most brilliant we have yet had. I will only mention that the number of those who have taken part in our meetings was 284. If we consider that we began in 1882 with 181 participants, and that last year's number, the highest that had then been reached, was 265, these 284 are a proof of progress. The number of the announced lectures was also greater this year than ever before, and I believe we all rejoice in the variety which has distinguished them. We shall take a treasure of suggestions home with us at which we shall have to work for a long time to come. I close the Congress with the wish that we shall all meet again in Wiesbaden next year, and that the number of participants and of lectures will then be still greater." Dr. Körte of Berlin proposed a "Hoch!" in honour of the President, which was heartily given.

Medical Meetings.

The German Dermatological Society will meet in Prague, and the Congress of Gynæcologists at Freiburg, in Baden, in the Whitsun week; the Assembly of German Physicians at Brunswick, on June 24th; the German Public Health Society at Strasburg, from the 14th to the 17th of September; the Ophthalmological Society at Heidelberg, at the same time; the sixty-third Assembly of German Naturalists and Physicians in Berlin the week after; and the Anatomical Society, also in Berlin, in the beginning of October. The International Congress of Physiologists will meet for the first time at Bâle in the beginning of September.

A Singular Experiment.

One of the workmen employed in some chemical works here made a singular experiment on himself. Having heard that the sulphonal produced by the factory is a soporific, he resolved to give his wife, who suffered from sleeplessness, the benefit of the newest invention. As a good husband, however, he determined first to try its effect on himself, and swallowed two tablespoonfuls, or about thirty grammes. The effect was that he slept for ninety hours, awoke for a short time, and then slept again for twenty-four hours running. No bad effects were noticed.

Berlin, April 22nd.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AT the ordinary meeting of the Comitia, held on Thursday, May 2nd, after the election of Members, a list of whom we publish in another column, it was officially announced that a hundred and twenty-five candidates for the College Licence had passed the required examination.

The President then referred to Sir Henry Pitman's resignation of the appointment of Registrar, and the College formally accepted the resignation.

Upon the President's nomination, Dr. Edward Liveing was elected Registrar, and Sir Henry Pitman was made Emeritus Registrar.

The quarterly report of the Finance Committee was read, and the question of the retiring pension of Sir Henry Pitman and the remuneration of the Registrar was, upon Sir William Jenner's earnest recommendation, referred back to the Finance Committee for amendment.

The College then proceeded to the election of Fellows, of whom a list will be found upon another page. Owing to the lateness of the hour, the report of the Lunacy Bill Committee was reserved for a future special meeting, and the College adjourned.

Obituary.

ALEXANDER HARVEY, M.D., L.R.C.S. EDIN.

THE subject of this notice passed quietly away on the 25th ult., after a long illness. He was the second son of the late Robert Harvey, M.D., of Braco and Broomhill, and Marnefendne, Grenada, and was born April 30th, 1811. He received his education at the Grammar School and Marischal College, Aberdeen, where he obtained his M.A. His medical studies were pursued in Edinburgh, Dublin, London, and Paris, and he became M.D. Edin. in 1835. He succeeded to estates in Broomhill and Grenada on the death of his elder brother, Robert, in 1831, but had to part with them subsequently in consequence of the depression caused by emancipation. This induced him to undertake medical practice. He was successively appointed Lecturer on the Institutes of Medicine in Marischal College and on the Practice of Physic in King's College. In 1852 he removed to Southampton, and practised there for some years, but in 1860 returned to Aberdeen, where he occupied the chair of Materia Medica in the United University. He resigned it in 1878 on account of failing health, and since then had resided in London. His contributions to medical literature were numerous and valuable, amongst which may be mentioned "A Remarkable Effect of Cross-breeding," "Trees and their Nature, or the Bud and its Attributes," "The Testimony of Nature to the Identity of the Bud and the Seed," "First Lines of Therapeutics," "On the Fœtus in Utero, &c.," and many papers, physiological, practical, and general. For many years he was physician to the Aberdeen Royal Infirmary, also to the Dispensary and to the Home for Incurables. In 1878 he was president of the North of Scotland Medical Association, and in 1877 president of the Harveian Society of Edinburgh. He took great interest in all college matters. His zeal in medical education was well attested, and in a series of letters to the late Sir James Clark on that important and difficult subject he displayed a thorough mastery of practical details. In 1840 he married Anne Farquharson, daughter of the late Alexander Smith, of Glenmillan, Aberdeenshire, who survives him. He had three sons and three daughters. The eldest of the surviving sons is a brigade surgeon in the Bengal Army. As a husband, a father, a teacher, and a friend, Dr. Harvey was one of the most estimable of men.

JAMES BARRON, M.R.C.S., L.S.A.,

LATE OF SUNDERLAND.

WE deeply regret to announce the death of Mr. Barron, at Putney, at the age of seventy. He was born at South Shields. He was apprenticed to Dr. Drury of North Shields, and afterwards became assistant to a practitioner at Corbridge. Thereafter he studied in Edinburgh. After taking his diplomas he practised for some time in his native town, but left it to practise in Westmoreland. From thence, after a short stay, he proceeded to Sunderland, where he soon acquired a good practice and remained till he retired from active work about three years ago. For some years in that town he held a Poor-law appointment, and at a later stage was honorary surgeon to the Sunderland Infirmary, where he did some good surgical work, including a case of double excision of the knee-joint, recorded in our columns in 1878. His services to this institution were rewarded by his being made consulting surgeon to the Infirmary. The features of Mr. Barron's character were simplicity, devotion to duty, love of work, and consideration for others. He was a devout Christian, and deeply attached to the Church of England. He was an illustration, of which there are so many, of a man of delicate constitution sticking to work, and doing more than many stronger men, from a sense of duty, and for the sake of those he loved. He suffered in various ways, but so husbanded his power that he enjoyed life to the last, and contrived to reach the threescore years and ten of the Psalmist. He sold his practice in Sunderland a few years since, and came to live in Kensington, which only a few weeks ago he exchanged for Putney. On Saturday, the 20th ult., he had an apoplectic attack, which gradually deepened till the following Tuesday morning, when he died peacefully. He will be lamented by a large number of friends, and very deeply by his widow, two daughters, and two sons—Dr. Barron of Durham, and the Rev. Percy Barron of Tyttenhanger Lodge, near St. Albans.

THE SERVICES.

ARMY MEDICAL STAFF.—Brigade Surgeon John James Chappell, M.D., has been granted retired pay (dated April 7th, 1889). Surgeon Robert Charles Gordon Dill resigns his commission (dated April 27th, 1889). Surgeon-General A. M. Tippetts has been appointed Principal Medical Officer on the Staff of the Belfast Military District.

ARMY MEDICAL RESERVE OF OFFICERS.—Surgeon Wm. Richard Grove, M.D., 3rd (Cambridgeshire) Volunteer Battalion, the Suffolk Regiment, to be Surgeon-Major, ranking as Major (dated April 27th, 1889). Acting Surgeon Richard Thompson Cæsar, 2nd Volunteer Battalion, the Hampshire Regiment, to be Surgeon, ranking as Captain (dated April 27th, 1889).

ADMIRALTY.—In accordance with the provisions of Her Majesty's Order in Council of April 1st, 1881, Inspector-General of Hospitals and Fleet John Breakey, M.D., has been placed on the Retired List, and Fleet Surgeon Wm. Henry Putsey has also been placed on the Retired List of his rank, at his own request (both dated April 27th, 1889).

The following appointment has been made:—Surgeon Mr. William Wilfred Williams to be Surgeon and Agent at St. David's.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—At a meeting of the Comitia held on May 2nd, the following Members of the College were nominated by the Council, and elected to the Fellowship:—

Acland, Theodore D., M.D. Oxon.
Batten, Rayner W., M.D. Lond.
Biss, Cecil Yates, M.D. Camb.
Hayes, T. Crawford, M.D. Dub.
Herringham, W. P., M.D. Oxon.
Horrocks, Peter, M.D. Lond.
Lubbock, Montagu, M.D. Lond.
Lush, W. G. Vawdrey, M.D. Lond.
Maguire, Robert, M.D. Lond.
Money, Angel, M.D. Lond.
Pitt, G. Newton, M.D. Camb.
Steell, Graham, M.D. Edin.

At the same Comitia the following gentlemen were elected Members of the College:—

Andrewes, F. W., M.B. Oxon.
Colman, W. Stacy, M.B. Lond.
Hamer, W. Heaton, M.B. Camb.
Harvey, Robert, M.D. Aberd.
Hawkins, H. Pennell, M.B. Oxon.
Ogilvie, George, M.B. Edin.
Ogilvie, Leslie, M.B. Edin.
Rolleston, H. Davy, M.B. Camb.
Voelcker, A. Francis, M.D. Lond.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—The April examinations for the triple qualification held in Glasgow were concluded on April 29th, with the following results:—

First Examination.—Of 42 candidates, the following 24 passed:—Wm. S. Howard, Illinois, U.S.A.; L. D. L. Ellis, Manchester; George Billing, Manchester; Owen J. Caregan, Liverpool; James Kitchin, Elgin; David Ed. Richards, Pembrokeshire; Findlater L. Roper, Jamaica; Harry Kirby, Yorkshire; John J. Fitzgerald, Cork; S. B. Patton, Tyrone; A. H. H. Barclay, Bangalore; Robert Gibson, Tyrone; John Dunlop, Glasgow; Arthur S. Jaques, Yorkshire; Robert Wilson, Glasgow; Alex. J. Hassard, Monkstown, Dublin; John Clark, Glasgow; Joseph A. Gilmore, Belfast; Richard L. Dollard, Dublin; Wm. L. B. Logan, Glasgow; Patrick J. M'Grath, Co. Waterford; Alex. J. Millar, Newmains; Oliver Scanlan, Chester; Pierce M. Dwyer, Weedon.

Second Examination.—Of 58 candidates, the following 31 passed:—Henry Buckley Ord, Darlington; John R. Lloyd-Jones, Carnarvonshire; Lachlan Macdonald, Inverness; Richd. D. Thomas, Anglesey; Percy E. Overton, Coventry; Richard M. Connolly, Co. Tipperary; Frederick Rawlings, jun., Lancashire; Joseph Suley-Wheeler, Lincolnshire; Charles R. Martin, Dublin; Geo. Roy Fortune, Glasgow; Edith Mary Brown, Whitehaven; Grace Ross Cadell, Carriden; Donald J. Macaulay, Inverness-shire; L. M. A. E. de la Roche Souvestre, Mauritius; T. W. E. Waddington, Blackburn; Leslie F. Bucknell, Sydney, N.S.W.; Puget D. Minchin, Kilkenny; M. Crannitch, Co. Limerick; Jas. Alden Fink, Calcutta; George J. Napthine, Australia; John P. Lyons, Clare; Henry K. G. Haynes, Cork; James S. Steele, Ballymena; Servaas De Kock, Cape of Good Hope; Alex. Ross, Edinburgh; Geo. H. Jenkins, Worcestershire; Thomas Callaghan, Cork; Walter F. Chevers, Cheltenham; L. D. L. Ellis, Manchester; E. F. W. Moon, Dungannon; Thos. W. Norton, Rotherham.

Final Examination.—Of 38 candidates the following 17 passed and were admitted L.R.C.P.Edin., L.R.C.S.Edin., and L.F.P.S.Glasg.:—Andrew J. D. Reid, Glasgow; Ernest Barber, Sheffield; John Jackson, Cockermouth; Thomas M'Millan, Kirkintilloch; M. D. Campbell, Dundee; Daniel O'Sullivan, Cork; Alexander Lewers, Australia; Geo. G. Watson, Midlothian; Chas. H. Murray, Donegal; William Mackenzie, Dufftown; Daniel G. Pitlai, Madras; John T. Hislop, Helensburgh; James C. O'Rafferty, Athy, Co. Kildare; Frank D. Holmes, B.A., Belfast; James Stevenson, Dundee; John A. Kelly, Madras; Frod. E. Tomlinson, Sedgeley, Staff.

ROYAL UNIVERSITY OF IRELAND.—The following have passed the Third Examination in Medicine of the University:—

Upper Pass Division.—James B. Coleman, Martin J. P. Dempsey, Patrick G. Griffith, John F. Jordan, Patrick R. Keary, Hester Dill Russell, James Ross Steen. (These candidates will all be admitted to the Further Examination for Honours.)

Passed.—John Alexander, John Bennett, Robt. Boyd, Jas. M. Brown, James A. Browne, William A. Bullen, Joseph P. Clarke, James S. Cluff, William Cluff, John E. W. Cruise, Souvestre de la Roche, Frances Lily Dick, Thomas S. Downer, William Downes, Wm. Ekin, Robert H. Elliott, James M. Fagan, William J. Gregory, James Mc Harrison, Daniel Jamison, John Hudson Jones, Richd. J. Keane, Daniel A. Leahy, Thomas J. Lenehan, Joseph J. Loftus, Anthony McBride, William McCallin, Thomas McDermott, Jas. P. Maynard, John S. Morrow, Patrick J. Murphy, John Nevin, Joseph A. O'Leary, James Priestly, Joseph M. Richey, John Scott, and Michael C. Stainton.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates, having passed the qualifying examination in Medicine, Surgery, and Midwifery, have received certificates entitling them to practise in the same, and were admitted Licentiates of the Society on the 12th ult.:—

Horton, Algernon John, Queen's College, Birmingham.
Stephen, George Caldwell, McGill University, Montreal.

The following received certificates on the 17th ult.:—

Edwards, Gerald Dundas, Camb. Univ. and Roy. Infr., Bristol.
Gann, Thomas Wm. Francis, Middlesex Hospital.
Harris, Frederick, Oxford Univ. and Roy. Infirmary, Liverpool.

The following received certificates on the 18th ult.:—

Daniel, Wm. Patrick Taylour, St. Mary's Hospital.
Squire, Frank Henry, London Hospital.

JUBILEE MEMORIAL: UNIVERSITY OF LONDON.—The statue of Her Majesty the Queen will be unveiled by the Prince of Wales in the University Building on Wednesday next, at 4 P.M.

COMPLIMENTARY DINNER TO DR. BREAKEY.—Prior to relinquishing the superintendence of Haslar Hospital Dr. John Breakey, R.N., until lately Inspector-General of Hospitals and Fleets, was entertained at a farewell dinner by the officers last week.

UNIVERSITY COLLEGE HOSPITAL.—The annual report of this institution states that the question of rebuilding the hospital is becoming every year more urgent. There were 2701 in-patients last year, the average number of days each patient was resident being twenty. The "Wakley" Convalescent Home was opened for the reception of patients in May last with six beds. Thirty-eight patients were sent to the home between May and December, and derived much benefit from the change. The expenses of working the Home for the first year were naturally heavy, but it is hoped that as experience is gained the committee will be enabled to effect a considerable reduction in the working cost.

LITERARY INTELLIGENCE.—A Vocabulary of Latin and Swedish Medical Words, with their translations into Finnish, is being published in the Helsingfors medical journal *Duodecim*.—"The Uses of Plants," by Professor G. S. Boulger, to be published in a few days by Messrs. Roper and Drowley, will give a concise enumeration, with a systematic index, of all vegetable substances in use in England as food, materia medica, oils, gums, rubbers, dyeing, tanning and paper-making materials, fibres, timber, &c., both home-grown and imported; together with short essays on the recent progress of vegetable technology in its various branches.

UNIVERSITY OF LONDON.—The following examiners for 1889–90 were elected at a meeting of the Senate held on the 24th inst.:—Chemistry: Professor H. E. Armstrong, Ph.D., F.R.S., and Professor W. A. Tilden, D.Sc., F.R.S. Botany and Vegetable Physiology: Professor F. Orpen Bower, D.Sc., and Professor H. M. Ward, M.A., F.R.S. Comparative Anatomy and Zoology: Sydney J. Hickson, D.Sc., and Adam Sedgwick, M.A., F.R.S. Practice of Medicine: William Cayley, M.D., and Professor F. T. Roberts, M.D., B.Sc. Surgery: W. Morrant Baker and Professor Christopher Heath. Anatomy: Professor John Curnow, M.D., and Professor Alexander Macalister, M.D., M.A., F.R.S. Physiology: J. N. Langley, M.A., F.R.S., and Professor E. A. Schäfer, F.R.S. Obstetric Medicine: F. H. Champneys, M.D., M.A., and Alfred L. Galabin, M.D., M.A. Materia Medica and Pharmaceutical Chemistry: J. Mitchell Bruce, M.D., M.A., and Frederick Taylor, M.D. Forensic Medicine: Professor G. V. Poore, M.D., B.S., and Thomas Stevenson, M.D.

LEICESTER INFIRMARY.—At the annual meeting of the subscribers to the Leicester Infirmary, held last week, an important new departure was taken with respect to the treatment of typhoid patients. Hitherto the infirmary has received all cases of typhoid fever both from town and country so far as its accommodation permitted, a separate "fever house" being part of the charity, to which subscribers contribute the same as to the general wards. Owing, however, to diminished subscriptions, the cost of treating these has become a serious financial burden upon the infirmary funds. Application was made some months ago to the health committee of the corporation and to the board of guardians for pecuniary assistance; the latter body gave a small subscription of £25 per year, but the corporation entirely refused anything, and also declined to undertake the treatment of typhoid in their own fever hospital. Accordingly, with a view apparently of bringing pressure to bear upon the latter body, it was resolved to empower the weekly board to refuse admission to typhoid patients unless some guarantee was given by some one for their payment. As it is out of the question for the poor patients who most need hospital nursing, and who, not only in their own interests, but also in that of the public, most require removal from their crowded homes, to make such payment, unless some other arrangement be come to, it will result in their remaining in their own homes, often improperly nursed and attended, and a possible source of danger to others.—The new Children's Hospital recently erected as a new wing of the Infirmary will be formally opened by the Princess Louise on the 28th inst.

HELP FOR THE WIDOWS AND ORPHANS OF DROWNED FISHERMEN.—A grand concert in aid of the widows and orphans of the fishermen who lost their lives during the severe storms of February last is announced to be held at the Cannon-street Hotel on May 6th. The patronage is a distinguished one, and includes amongst the number the Lord Mayor. It is to be hoped that the venture will be a highly successful one, as the people whom it is designed to assist are in a very deplorable condition. Tickets may be obtained from the chairman, Mr. Sam Larkin, Billingsgate, and of the hon. secretary, Mr. W. Barrett, 41, Bedford-street, Strand.

THE COLLEGE OF STATE MEDICINE, LONDON.—The following lectures will be given during the ensuing summer session in the lecture theatre of the College on Wednesday afternoons at 4 P.M.:—May 8th, "Insanity in some of its Relations to Crime," by Dr. G. H. Savage; May 22nd, "The Ventilation of Schools," by Sir H. E. Roscoe, M.P., F.R.S.; June 5th, "Illustrations of the Methods of Reasoning and the Nature of Proof required in Sanitary Investigations," by R. Thorne Thorne, Esq., M.B., F.R.C.P.; June 19th, "Food and its Relation to Active Work," by Surgeon-Major J. Lane Notter, M.D.; July 3rd, "Parasitism in Animals in relation to Public Health," by Professor G. T. Brown, C.B.; July 17th, "A Remarkable Poisoning Case," by Professor C. Meymott Tidy, M.B.

MEDICAL NOTES IN PARLIAMENT.

The Revolver Bill.

IN the House of Lords, on Tuesday, the 30th ult., on the motion of the Earl of Milltown, the Larceny Act (1861) Amendment (Use of Firearms) Bill was referred to the Standing Committee for Bills relating to Law.

Indecent Advertisements Bill.

On the motion of the Earl of Meath this Bill, which *inter alia* is aimed at pamphlets &c. of an indecent pseudo-medical nature, was referred to the Standing Committee for General Bills.

The Royal Commission on Vaccination.

In the House of Commons on Monday, the 29th ult., Mr. Picton asked the President of the Local Government Board whether he could now state the names of the intended Royal Commissioners who were to inquire into the working of the Vaccination Acts, and also the terms of the reference.—Mr. Ritchie: I am not in a position to state to the House the names of the proposed Commissioners. I have been in correspondence with gentlemen on the subject, and it will be a few days before I am able to inform the House of the names. But the proposed reference is to the following effect:—The Royal Commission is to inquire and report as to (1) the effect of vaccination in reducing the prevalence of, and mortality from, small-pox; (2) what means, other than vaccination, can be used for diminishing the prevalence of small-pox, and how far such means could be relied on in place of vaccination; (3) the objections made to vaccination on the ground of injurious effects alleged to result therefrom, and the nature and extent of any injurious effects which do, in fact, so result; (4) whether any, and, if so, what means should be adopted for preventing or lessening the ill effects, if any, resulting from vaccination, and whether, and, if so, by what means vaccination with animal vaccine should be further facilitated as a part of public vaccination; (5) whether any alteration should be made in the arrangements and proceedings for securing the performance of vaccination, and in particular in the provisions of the Vaccination Acts with respect to repeated prosecutions for non-compliance with the law.—Mr. Picton further asked the right hon. gentleman whether there was any authority whatever to be attached to the announcement that had been made in various journals of certain names of persons who were, it was said, intended to be placed on the Commission.—Mr. Ritchie replied in the negative.

On Thursday, the 2nd inst., Mr. Ritchie explained, in reply to Mr. Picton, that it was not proposed to limit the reference to the Royal Commission on the Working of the Vaccination Acts to "repeated" prosecutions for violation of the Act. That word was inadvertently used in his last answer.

Deaths from Uncertified Causes.

On Tuesday, in reply to Dr. Cameron, Mr. W. Long, secretary to the Local Government Board, stated that the proportion of deaths where the cause of death is not certified by any medical attendant or coroner's inquiry is steadily declining. In 1879 the proportion was 4·7 per cent., while in 1887 it was only 3·3 per cent. The uncertified cases of death (a considerable majority being infants or children) may be generally subdivided into two classes: (1) the cases in which the deceased person had no medical attendance during the last illness; and (2) the cases in which the attendance has been by an unqualified or unregistered practitioner. The Registrar-General has good reason to know that a very large proportion of the cases of uncertified deaths are reported by registrars to coroners prior to their registration, although those officers, in the exercise of their discretion, decide that it is unnecessary to hold inquests. Mr. Long concluded by stating that he did not think the circumstances required the appointment of a Select Committee, as urged by Dr. Cameron, "to inquire into the efficiency of the existing law as to the disposal of the dead, for securing an accurate record of the causes of death in all cases, and especially for detecting them where death might have been due to poison, violence, or criminal neglect."

Vivisection.

In Committee of Supply, Mr. Coleridge moved to reduce the salary of the Inspector under the Vivisection Act of 1876 by the sum of £50, on the ground that he was not a suitable person to be inspector, had formerly been a vivisectionist himself and had no real desire to limit, as far as the Act permitted, operations upon living animals. Mr. Coleridge read some accounts of operations said to have been performed by Dr. McWilliam last year, upon twelve animals, the experiments being upon the heart *in situ*, and concluded that the Act, under its present administration, did not prevent terrible cruelty and lulled public suspicion.—Mr. Matthews said he had rarely heard the privileges of the House more entirely abused than by the personal attack which the hon. member had thought fit to make upon a scientific man of great eminence, who had for ten or fifteen years discharged his duties to the entire satisfaction of successive Secretaries of State. The hon. and learned member had suppressed entirely that under the Vivisection Act none of the things he mentioned could be done in this country. The Home Office never granted certificates for experiments upon dogs and cats unless they were accompanied by a certificate of fitness from the highest scientific authorities in the country. The Inspector had suggested prosecutions when he himself had actually thought that the experiments leading to prosecution did not come within the Act. Mr. J. Ellis urged the adjournment of the debate.—Mr. Goschen consented to the debate being adjourned as, instead of the conduct of the particular inspector, the whole subject of vivisection had been brought into question.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

CLARK, W. T. M., L.R.C.P., M.R.C.S., has been reappointed Medical Officer of Health, Twickenham.

CLOWES, W. F. A., M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Kent and Canterbury Hospital, vice C. Lumley, M.R.C.S., L.R.C.P., resigned.

CRAWFORD, W. S., B.A. Cantab., L.R.C.S., L.R.C.P., L.M. Edin., has been appointed Honorary Assistant Surgeon to the Liverpool Hospital for Cancer and Skin Diseases.

DE GRUCHY, C. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of the Christchurch District, and the Caerleon District and Schools, respectively, Newport (Mon.) Union.

DILL, J. F. G., M.D., M.B., M.R.C.S., has been appointed Assistant Physician to the Sussex County Hospital, vice Branfoot, resigned.

HAYES, H. W. M'CAULLY, M.R.C.P., L.R.C.S. Edin., L.F.P.S. Glas., & L.M., has been appointed Assistant Medical Officer to Grove Hall Asylum, Bow, E.

JACKSON, M., M.D. Irel., M.R.C.S., L.S.A., has been appointed Honorary Surgeon to the North Devon Infirmary.

JONES, W. R., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer and Public Vaccinator for the Second District, Halstead Union.

LUND, HERBERT, B.A., M.B., B.S. Cantab., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Salford Royal Hospital.

MACLURE, H. W., M.B., B.S., B.A. Cantab., M.R.C.S., L.R.C.P., has been appointed Resident Clinical Assistant to the East London Hospital for Children, Shadwell.

NEWMAN, A. C., M.R.C.S., L.S.A., has been reappointed Medical Officer of the Bodenham District, Leominster Union.

ROPE, H. J., F.R.C.S., has been appointed Surgeon to the Salop Infirmary, vice J. R. Humphreys, F.R.C.S. Edin., resigned.

SMITH, J. ANDERSON, M.D. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Kilburn and St. John's-wood Dispensary.

WHITE, S., M.D. Irel., M.Ch., F.R.C.S. Eng., has been appointed Surgeon to the Sheffield Hospital for Children.

WIGGLESWORTH, SYDNEY, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer of No. 2 Kirkham District, Bolton.

WILLIAMSON, A. S., M.B., C.M. Aberd., has been appointed Resident Assistant, Aberdeen Royal Infirmary.

Vacancies.

In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.

BURTON-ON-TRENT FRIENDLY SOCIETIES MEDICAL ASSOCIATION.—Junior Surgeon.

DERBYSHIRE GENERAL INFIRMARY, Derby.—House Surgeon. Salary for the first year £100, increasing £10 a year up to £120, with apartments, board, and washing.

EAST SUFFOLK AND IPSWICH HOSPITAL.—Assistant House Surgeon. Salary £10 per annum. Board, lodging, and washing allowed.

GUEST HOSPITAL, Dudley.—Resident Medical Officer. Salary £100 for the first year, £110 for the second, and £120 afterwards, with board, residence, and washing.

HOSPITAL FOR WOMEN.—THE LONDON SCHOOL OF GYNÆCOLOGY, Soho-square, W.—Two Clinical Assistants in the out-patient department.

MEDICUS, Box 7463, Sell's Advertising Offices, London. Medical Examiners for new Friendly Society. Salary £100, and special fees, &c.

NORTH STAFFORDSHIRE INFIRMARY, Hartshill. — House Surgeon. Salary £100 per annum, with furnished apartments, board, and washing.

RISBRIDGE UNION, Haverhill, Suffolk.—Medical Officer for the Fourth District of the Union. Salary £70 per annum, exclusive of Midwifery and extra medical fees.

ROYAL ORTHOPÆDIC HOSPITAL, 297, Oxford-street, London.—Resident House Surgeon and Apothecary. Salary £100 per annum, with partial board.

TORBAY HOSPITAL AND PROVIDENT DISPENSARY, Torquay.—Junior House Surgeon and Dispenser.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, Newcastle-on-Tyne. Lecturer on Anatomy. Salary £300 per annum, increasing by annual instalments of £25.

VICTORIA UNIVERSITY.—THE YORKSHIRE COLLEGE, LEEDS.—Lecturer on the Diseases of Women and Children.

WARWICK COUNTY LUNATIC ASYLUM.—Medical Superintendent of the two asylums at Hatton, near Warwick. Salary £600 a year, with furnished house, coals, gas, and washing.

Births, Marriages, and Deaths.

BIRTHS.

BOND.—On the 25th ult., at Leyton, Essex, the wife of Mayston Bond, M.R.C.S., L.R.C.P., of a son.

HUBBARD.—On the 27th ult., the wife of A. J. Hubbard, M.D., of Hemel Hempstead, of a daughter (stillborn).

PARSON.—On Easter Sunday, on board s.s. *Peshawur*, the wife of Charles Jenner Parson, M.D., of a son.

WEIR.—On the 1st inst., at Gatestone, Upper Norwood, the wife of Dr. Walter Weir, of a son.

WEISS.—On the 27th ult., at Hanover-square, W., the wife of Hubert Foveaux Weiss, F.R.C.S. Eng., of a son.

MARRIAGES.

ANDERSON—MOIR.—On the 25th ult., at St. Matthew's Church, Bayswater, Ernest Chester Anderson, M.R.C.S., L.R.C.P., son of the late Colonel P. C. Anderson, Royal (Bengal) Artillery, to Mary Chester Moir, daughter of the late Colonel George Moir, C.B., of Scotstown, Aberdeen, and of the Royal Horse Artillery (Bengal).

DODD—THRUPP.—On the 20th ult., at Hove Parish Church, by the Rev. A. G. L. Bowling, Vicar of St. Barnabas', Hove, Arthur Herbert Dodd, L.R.C.P. Lond., M.R.C.S. Eng., of 98, Sackville-road, West Brighton, to Edith Frances Sibthorpe, youngest daughter of the late Robert Thrupp, Esq., of Brighton.

FEGEN—M'KAY.—On the 30th ult., at St. Simon's, Southsea, Charles Milton Fegen, M.R.C.S., L.R.C.P., of Brandon, Suffolk, to Jane Lilias, younger and only surviving daughter of the late John Henry M'Kay, Esq., of Alderley Edge, Cheshire.

HUGHES—ROSLING.—On the 24th ult., at Reigate, Morgan Hughes, M.R.C.S., L.D.S. Eng., of Croydon, son of William Hughes, of Ross, Herefordshire, to Edith, eldest daughter of Alfred Rosling, Jr., of Reigate, Surrey.

MORGAN—GILES.—On the 25th ult., at St. James's, Holloway, by the Rev. G. C. Williamson, Charles Jeffrey Morgan, M.R.C.S., of Caledonian-road, Holloway, to Ada Pearson, daughter of the late William Giles.

MORGAN—KENNICOTT.—On the 25th ult., at the Parish Church, Tetcott, N. Devon, Arthur Lucas Morgan, M.R.C.S., L.R.C.P.E., youngest son of the late Rev. Lewis Morgan, Vicar of Llangadock, Carmarthenshire, to Olive Madeleyne, only daughter of the late Major F. Dutton Kennicott, R.M., and niece of Mrs. Lightfoot, Raleigh-villas, Exmouth.

MORT—WINTER.—On the 24th ult., in the Chapel Royal, Savoy, Herbert Brownlow Mort, M.R.C.S., L.R.C.P. Lond., youngest son of W. Mort, M.D., of Southport, to Annie Erskine, only daughter of W. Julius Winter, of Lee, S.E.

TAYLOR—COLES.—On the 26th ult., at East Budleigh Church, Arthur Sneyd Taylor, B.A., M.B., B.C. Cantab., F.R.C.S. Eng., of Surbiton-hill, youngest son of Francis Taylor, Esq., of Blackheath, to Ada Celia Norman, fifth daughter of the Rev. E. Norman Coles, of Battlesden Cottage, East Budleigh, S. Devon, and late Rector of Battlesden with Pottesgrove, in the county of Bedford.

YEOMAN—TATTERSALL.—On the 24th ult., at Penmynydd, Anglesey, by the Rev. H. Davies Owen, M.A., Vicar, assisted by the Rev. T. Warren Trevor, M.A., Rector of Machynlleth, Montgomeryshire, Charles Yeoman, M.B., B.C. Cantab., third son of John Yeoman, Osmotherley, Northallerton, to Cecil Elizabeth, daughter of the late Rev. W. A. Tattersall, M.A., Vicar of Oxton, Cheshire.

DEATHS.

BARRON.—On the 24th ult., at 73, Norroy-road, Putney, S.W., James Barron, M.R.C.S., L.S.A., late of Sunderland, aged 70.

DEAMER.—On the 12th March, at Christchurch, New Zealand, suddenly, William Deamer, M.D., J.P., in his 60th year.

DUNN.—On the 26th ult., at his residence, Tankerville, Sudbury, Middlesex, after a very short illness, Joseph Thomas Holt Dunn, M.R.C.S., L.R.C.P. Edin., late of Bayswater, in his 61st year.

FIRMAN.—On the 26th ult., at Wansford, Northamptonshire, Charles George Firman, M.R.C.S., L.S.A., aged 55.

FULSHAW.—On the 20th ult., at the residence of his brother-in-law, Mr. Worthington, of Elmsthorpe, Ralph Fulshaw, M.R.C.S., of Earl Shilton, Hinckley, Leicestershire, aged 73.

GAISFORD.—On the 29th March, near Almora, N.W.P., of cholera, Martin Gaisford, I.M.D., Deputy Sanitary Commissioner, second son of Major Gaisford, Ilfracombe.

GREWCOCK.—On the 26th ult., after one year and ten months' illness, of general paralysis, John Baily Grewcock, M.R.C.S. Eng., L.S.A., of Pershore, Worcestershire, eldest son of the late George Grewcock, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., of Folkingham, Lincolnshire, aged 48.

LANGFORD.—On the 15th ult., at Ford-park, Plymouth, Edwin Charles Langford, surgeon, in his 57th year.

VEALE.—On the 26th ult., at Roxburgh House, Harrogate, suddenly, Richard Sobey Veale, M.D., J.P., aged 48.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, May 6.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

ST. MARK'S HOSPITAL.—Operations, 2.30 P.M.; Tuesday, 2.30 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

ROYAL INSTITUTION.—5 P.M. General Monthly Meeting.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.—8 P.M. Mr. A. Kirby (Bedford): Electrical Progress and Dental Practice.—Mr. David Hepburn: A few remarks on Suction Plates, Air Chambers, and Artificial Rugæ.

SOCIETY OF ARTS.—8 P.M. Mr. H. Graham Harris: Heat Engines other than Steam.

MEDICAL SOCIETY OF LONDON.—Annual Conversazione. Oration at 8.30 P.M. by Mr. Jonathan Hutchinson, on The Clinical Uses of Rare Diseases.

Tuesday, May 7.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same days, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Mr. Jean Paul Richter: The Italian Renaissance Painters: their Education.

PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Robinson: Cysticerous Cellulosæ from Human Muscle.—Mr. Doran: Sequel to case of Primary Cancer of Fallopian Tube reported in Vol. 89.—Dr. Dickinson: The Kidney from a Patient in whom Albuminuria was Hereditary.—Dr. Goodhart: Aneurysmal Varix of Splenic Artery and Vein.—Dr. Ormerod: Ulcerative Colitis.—Mr. D'Arcy Power: Adrenals in which the Tubercle Bacillus has been Demonstrated from a case of Addison's Disease.—Dr. Taylor: Left Auricle Pressing on Left Bronchus.—Mr. Silcock: Vesiculation of Mucous Membrane of the Bladder.—Mr. Hutchinson, jun.: Lumbar Hernia.—Dr. Pitt: Thrombosis of Aorta.—Mr. Battle: Ectopion of Cæcum, with Prolapse of Small Intestine.—Mr. Shattock: Tubercle of the Breast. Card specimens:—Mr. W. G. Spencer: Cast of Congenital Talipes Varus and Valgus from the same subject.—Dr. Wethered: An Unusual case of Tuberculosis of the Liver. Mr. Shattock: Pedunculated Chondroma from Knee-joint; Actinomycosis of Jaw of Heifer.

Wednesday, May 8.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M. Saturday, 1 P.M.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical visits on Wednesday and Saturday at 9.15 A.M.

EPIDEMIOLOGICAL SOCIETY OF LONDON.—8 P.M. Dr. Phineas S. Abraham: Leprosy, a Review of some Facts and Figures.

ROYAL MICROSCOPICAL SOCIETY.—8 P.M. Mr. C. D. Sherborn and Mr. F. Chapman: Additional Note on the Foraminifera of the London Clay.—Mr. A. C. Stokes: New Peritrichous Infusoria from the Fresh-waters of the United States.

SOCIETY OF ARTS.—8 P.M. Mr. George Clulow: Origin and Manufacture of Playing Cards.

BRITISH GYNÆCOLOGICAL SOCIETY.—8.30 P.M. Dr. Case: Toleration of Morphia in cases of Abdominal Operations.—Dr. Mackenzie: Case of Prolonged Gestation. Specimens by Dr. J. Mansell-Moullin and Mr. Lawson Tait.

Thursday, May 9.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Mr. Eadweard Muybridge: The Science of Animal Locomotion in its Relation to Design in Art (illustrated by the Zoopraxiscope).

HARVEIAN SOCIETY OF LONDON.—8.30 P.M. Dr. Buzzard: Cases of Peripheric Neuritis.—Mr. Jacobson: Removal of Bronchocele, and Radical Cure of Hernia, and Excision and Erasion of the Knee.—Mr. Watson Cheyne: Keloid Scars.—Mr. Lockwood: Cases of Testicle in the Perineum. And others.

Friday, May 10.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
SOCIETY OF MEDICAL OFFICERS OF HEALTH (Scottish Corporation Hall, Crane-court, Fleet-street).—7.30 P.M. Dr. Sykes: Registration and Certification of Death.—Dr. Willoughby: A New Public Health Act for Italy.
CLINICAL SOCIETY OF LONDON.—May 10th, 8.30 P.M. Mr. W. H. Bennett: Case of Closure of the Jaws from Bilateral Ankylosis treated by Excision of Both Angles of the Inferior Maxilla after the complete failure of other Methods.—Mr. Buckston Browne: Case of Supra-pubic Prostatectomy.—Mr. W. Anderson: Supra-pubic Cystotomy for Removal of Tumour of Bladder. Sequel to a case reported previously to the Clinical Society.—Mr. G. H. Makins: Case of Intussusception of Small Intestine.
ROYAL INSTITUTION.—9 P.M. Prof. Dewar: Optical Properties of Oxygen and Ozone.

Saturday, May 11.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. Joseph Bennett: The Origin and Development of Opera in England (with Musical Illustrations).

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 2nd, 1889.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Apl. 26	30·04	S.W.	47	44	115	62	40	·04	Hazy
,, 27	30·00	S.W.	53	50	99	64	45	·15	Cloudy
,, 28	29·83	S.W.	53	51	90	59	46	·09	Cloudy
,, 29	29·90	S.W.	50	45	109	59	42	·07	Cloudy
,, 30	29·59	S.E.	51	49	88	61	47	..	Cloudy
May 1	29·70	S.W.	51	47	77	55	46	·12	Cloudy
,, 2	29·73	S.	51	48	81	55	45	·04	Raining

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET to be addressed "to the Publisher."

We cannot undertake to return MSS. not used.

CARBOLIC ACID INJECTIONS IN HYDROCELE.

Dr. John B. Roberts of Philadelphia draws our attention to the paper by Dr. R. J. Levis of that city, in which he published the account of cases where he had employed carbolic acid as an injection for the cure of hydrocele of the tunica vaginalis. He had practised this special mode of injection for a period of ten years—from 1871 to 1881—with uniformly good results. In our annotation on this subject (THE LANCET, vol. i., 1889, p. 642) we inadvertently printed the name of "Lewis," instead of *Levis*. He injected a quantity of the pure acid varying in accordance with the size of the tumour, from thirty to sixty grains.

Graduate might gain assistance in his search from Mr. Bailey, Librarian to the Royal College of Surgeons.

Mr. John Lowe.—If the facts are as stated, the case should be submitted to the General Medical Council.

Enquirer is referred to an article which appeared in THE LANCET of Nov. 20th, 1886.

SNORING.

To the Editors of THE LANCET.

SIRS,—Having seen a paragraph in the *Manchester Evening News re* snoring, and being a culprit myself, I venture to send you the following, which in my case is effectual, as a cure. Sleep on the right side, almost on the stomach. Place the right hand firmly well on the left shoulder; put the bed-clothes over the hand, but under the chin; place the left hand slightly under the upper part of the right arm, to keep the right hand in its place. The idea is to support the chin, so that the mouth will remain closed. The patient may sleep on the left side, but then the arms and hands must be reversed.—I am, Sirs, yours truly,

Southport, April 27th, 1889. JOHN HUDSON.

MANCHESTER METHODS.—HOW A FIRST HONOURS MAN AND MEDALLIST COMMENCES PRACTICE IN MANCHESTER.

THE following is a copy of the card of, we hope, a very young practitioner, who has time to repent of such methods of beginning a professional life. The card is evidently meant for indiscriminate distribution. Universities are said to be indifferent to the possession of the disciplinary powers of the medical corporations, but there are many indications that mere graduation is no guarantee for professional methods, and that the Universities need to have as strong powers as corporations, if the traditions of our profession are to be maintained.

"Wm. Bennett, M.D., physician and surgeon. First honoursman and medalist. 120, Bignor-street (three doors on left, off Waterloo-road). Messages taken by Mrs. Hall, Mary-street. Charges: Ordinary day visits, 1s.; medicine, 1s.; midwifery (working class), 10s. 6d., cash; booking extra. Consultations at home at 10 A.M., 2 P.M., and 7 to 8 P.M., free. Medicine only charged for at above rate."

We append another specimen of Manchester advertising.

"Dispensary.—Manchester and District Dispensary for Diseases of the Liver, Stomach, and Heart, 27, Byrom-street, St. John's-street, Deansgate. Committee, Mr. Sykes, solicitor (chairman), Messrs. J. Morris and E. Mather; consulting physician, Dr. J. Mitchell. Open daily, except Sunday, morning ten to one, evening six to eight. Hon. sec., E. Jordan, Esq."

R. D. E. (Llysmeddyg).—The name mentioned in the report sent to us does not appear in the Medical Register.

P. P.—We have no doubt a county-court judge would decide in the affirmative.

SACCHARIN.

To the Editors of THE LANCET.

SIRS,—Saccharin is reputed to be a powerful antiseptic and germicide, and no doubt on good grounds. I therefore wish to put on record that a solution which I had prepared of the strength recommended to replace the simple syrup of the Pharmacopœia (thirty grains of soluble saccharin to one pint of water) developed in about three weeks a vegetation such as occurs in solutions of most substances. Under the microscope micrococci and bacteria could be seen in active movement, a few chains motionless; also some large cells about the size of blood-discs, which I am unable to specify further. I should be glad to know if the observation is novel, and how it can be reconciled with the reputed properties of saccharin? I am, Sirs, yours truly,

April 30th, 1889. G. P.

DEAF-MUTES.

Mr. James Howard, head-master of the Yorkshire Institution for the Deaf and Dumb, Doncaster, in a long letter for which we are unable to find space, returns to this subject, and, in reply to Mr. Van Praagh's strictures published in THE LANCET of the 27th ult., credits him with labouring under the same difficulty respecting English institutions for the deaf and dumb that he (Mr. Howard) is credited with as regards "well-regulated day schools"—viz., lack of experience. The well-regulated day school which Mr. Van Praagh has in mind is one which receives pupils from the upper and middle classes at a cost of from £40 to £50 a year, the pupils being boarded out in selected families living conveniently near the school. This is altogether an exceptional school, and not what was referred to by Mr. Graham Bell, who originated the correspondence, or by Mr. Howard, who once more claims that as regards the poorer classes the educational and other advantages of large, well-conducted institutions, with wholesome food and exercise, together with efficient supervision, are overwhelming, as compared with the day school system as advocated by Mr. Graham Bell.

PUBLIC HEALTH QUESTIONS.

To the Editors of THE LANCET.

SIRS,—I should be greatly obliged by any information in reply to the following queries. (1) Where can I find Dr. Kelly's observations on phthisis and wet subsoil? (2) Where can I obtain trustworthy statistics of sickness or mortality in buildings crowded on a limited area, but otherwise of good sanitary construction? (3) Also similar statistics of comparative healthiness or unhealthiness of well lighted and badly lighted rooms or wards, &c.? I am, Sirs, yours truly,

April, 1889. D. P. H.

*** The principal contributions by Dr. Kelly on the question of phthisis and subsoil wetness are contained at pages 92-95 of his sixth (1880) annual report on the condition of the Combined Sanitary District of West Sussex, and in his last report on the same district.—ED. L.

MATERNAL IMPRESSIONS.

To the Editors of THE LANCET.

SIRS,—I attended a woman last week whose child was born with deformed feet: one foot has only two toes and the other three, the os calcis in both feet being either absent or very little developed. She accounts for it thus: early in the pregnancy she was disgusted one morning by the sight of a pet rabbit which had been killed by a cat; she found it just as the cat had gnawed off the two forepaws, leaving a ragged stump, and the impression was so strong that she was for a long time constantly thinking of it.

I think the case worth recording, as the explanation seems more reasonable than is sometimes the case.—Yours faithfully,

Tottenham. GEO. B. BEALE, M.D.

THE SIXPENNY DOCTOR IN FRANCE.

THE sixpenny doctor has, it appears, his counterpart on the other side of the Channel, though, owing to the differences of circumstances, and especially perhaps to his not being allowed to supply medicines, his tariff there is slightly different from that which is in vogue here. According to an article in the *Bulletin Méd'cale des Vosges*, there exists a small town in which two or three medical men make, or try to make, a living by visiting patients for half a franc. It can easily be understood that services so cheaply rendered are but slightly valued, the consequence of this being that when patients are at all seriously ill practitioners are frequently summoned from a large city at some little distance. Complaints are made that these gentlemen, instead of demanding a consultation with the practitioner already in attendance, are in the habit of completely ignoring him, and of taking the case altogether out of his hands, so that he has to look on with folded hands until some member of his patient's family happens to be attacked by some trivial affection which he is thought competent to treat. The journal we have quoted suggests that as advice is frequently valued according to the fee charged for it, it would be well for the practitioners in question to raise their fees to a more adequate sum. Were the great Paris consultants to see people for two francs, their advice would probably be far less esteemed than it is. On the other hand, there is a midwife in one town who drives a splendid trade in prescribing, the value of her advice being doubtless measured by her fees, as she demands ten francs for a consultation at her house, and thirty francs for a visit.

W. F. D. should consult his medical attendant. We do not give advice.

Mr. F. B. Jessett.—Yes, in an early number.

"BLACKBOARD" SORE-THROAT OR SCHOOL BOARD SORE-THROAT.

To the Editors of THE LANCET.

SIRS,—A good deal has been heard of late of School Board sore-throat, and all who have any experience in throat practice must agree that School Board teachers do suffer much in this respect. One source of irritation has not, however, I think, been brought forward, and that is the effect of the blackboard dry duster and its cloud of grit and powder so constantly inhaled by teachers. I have seen great irritation produced by the inhalation of this dust, and would suggest that teachers should use a wet sponge and not a dry duster, and so avoid at least one of the chief sources of laryngeal irritation.

I am, Sirs, yours very truly,

J. M. ELBOROUGH SCATLIFF,

April 30th, 1889. Honorary Surgeon, Brighton Throat Hospital.

ERRATA.—In the article on Circumcision by Dr. Sinclair, April 20th, page 783, a few corrections require to be made—viz., for "W. W. Sinclair" read *A.* W. Sinclair; for "Selaugor," *Selángor;* for "Sapit Beraunah," Sapit *Berónat;* for "carbolic acid," carbolic *oil;* for "Haji Rajah Boh," Haji Rajah *Bot.*

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